

Illustrated Catalogue. 

ENGLISH BROTHERS.

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UNITED STATES OF AMERICA.

ILLUSTRATED CATALOGUE

— OF —

ENGLISH BROTHERS,

— DEALERS IN —

WROUGHT IRON PIPE,

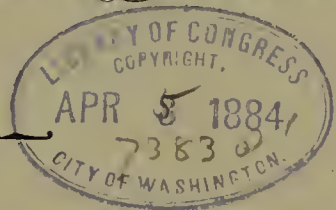
Brass and Iron Steam, Gas and Water Goods

Plumbers' Lead, Copper and Earthenware
Supplies,

Pumps, Yard and Fire Hydrants,

15
9427^a

TOOLS



BELTING, HOSE, PACKING, ETC.

Nos. 1328-1330 WEST ELEVENTH STREET,

KANSAS CITY, MO.

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BY ENGLISH BROTHERS.
KANSAS CITY, MO.

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ART PRINTERS  AND ENGRAVERS.

INTRODUCTION.

We take pleasure in presenting to our friends and the trade our new Illustrated Catalogue and Price-List. In issuing this edition, every care has been taken to make it thorough and complete in all its parts, and a standard reference book for the trade.

It will be our constant aim to retain the confidence and patronage of our customers, by supplying them with the best of material at the lowest market rates. Our stock is very complete, and orders will be carefully and promptly filled.

Since our last General Catalogue was issued, we have largely increased our variety, and the present edition will be found to contain a very complete representation of the leading goods in the line of Copper, Iron and Earthenware, Water Closets, Traps, etc., etc.

In the lines we are now handling, we have increased our stock to cover the wants of our customers, as nearly as possible, our aim being to supply all demands in short order.

Discount sheets will be issued with this Catalogue, and will be changed as occasion requires.

Gratefully acknowledging past favors, and soliciting future patronage, we are

Respectfully yours,

ENGLISH BROTHERS.

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MANUFACTURERS' PRICE LIST.

WROUGHT-IRON BUTT-WELDED

STEAM, GAS AND WATER PIPE.

Adopted December 17, 1883.

INSIDE DIAMETER, NOMINAL.	PRICE PER FOOT, PLAIN.	PRICE PER FOOT, GALVANIZED.	WEIGHT PER FOOT, NOMINAL, LBS.	THICKNESS, INCHES.	NO. OF THREADS PER IN. OF SCREW.
$\frac{1}{8}$ in.	\$0 03	....	.24	.068	27
$\frac{1}{4}$ "	03	\$0 05	.42	.088	18
$\frac{3}{8}$ "	03 $\frac{3}{4}$	05 $\frac{1}{2}$	.56	.091	18
$\frac{1}{2}$ "	04 $\frac{3}{4}$	06	.84	.109	14
$\frac{3}{4}$ "	06	07 $\frac{1}{2}$	1.12	.113	14
1 "	08	10 $\frac{1}{2}$	1.67	.134	11 $\frac{1}{2}$
1 $\frac{1}{4}$ "	11	14	2.24	.140	11 $\frac{1}{2}$

MANUFACTURERS' PRICE LIST.

WROUGHT-IRON LAP-WELDED

STEAM, GAS AND WATER PIPE.

Adopted December 17, 1883.

INSIDE DIAMETER, NOMINAL.	PRICE PER FOOT, PLAIN.	PRICE PER FOOT, GALVANIZED.	WEIGHT PER FOOT, NOMINAL, LBS.	THICKNESS, INCHES.	NO. OF THREADS PER IN. OF SCREW.
1 $\frac{1}{2}$ in.	\$0 21	\$0 24	2.68	.145	11 $\frac{1}{2}$
2 "	26	30	3.61	.154	11 $\frac{1}{2}$
2 $\frac{1}{2}$ "	38	47	5.74	.204	8
3 "	50	62	7.54	.217	8
3 $\frac{1}{2}$ "	67	83	9.00	.226	8
4 "	83	1 00	10.66	.237	8
4 $\frac{1}{2}$ "	1 00	1 25	12.34	.246	8
5 "	1 10	1 50	14.50	.259	8
6 "	1 50	2 00	18.76	.280	8
7 "	2 00	....	23.27	.301	8
8 "	2 75	....	28.18	.322	8
9 "	3 70	....	33.70	.344	8
10 "	4 75	....	40.06	.366	8
11 "	5 75	....	45.02	.375	8
12 "	6 50	....	49.00	.375	8
13 "	7 75	....	54.00	.375	8
14 "	9 00	....	58.00	.375	8
15 "	10 00	....	....	.375	8

Taper of Threads, 1 to 32 on each side.

Pipe cut to specific lengths, to suit purchasers, at an EXTRA CHARGE.

**EXTRA AND DOUBLE EXTRA STRONG
WROUGHT IRON WELDED PIPE.**

* Adopted December 17, 1883.

NOMINAL DIAMETER, INCHES.	PRICE PER FOOT. X STRONG.	PRICE PER FOOT. XX STRONG.	WEIGHT PER FOOT. X POUNDS. STRONG.	WEIGHT PER FOOT, XX STRONG. POUNDS.	ACTUAL INSIDE DIAMETER. X STRONG. INCHES.	ACTUAL INSIDE DIAMETER. XX STRONG. INCHES.
$\frac{1}{8}$	\$0 06	....	.40	....	0.20	....
$\frac{1}{4}$	06	....	.56	....	0.29	....
$\frac{3}{8}$	07 $\frac{1}{2}$	....	.75	....	0.42	....
$\frac{1}{2}$	09 $\frac{1}{2}$	\$0 19	1.16	1.38	0.54	0.24
$\frac{3}{4}$	12	24	1.61	2.32	0.73	0.42
1	16	32	2.32	3.25	0.95	0.59
1 $\frac{1}{4}$	22	44	3.19	4.57	1.27	0.88
1 $\frac{1}{2}$	42	84	3.28	6.25	1.49	1.09
2	52	1 04	5.22	7.94	1.93	1.49
2 $\frac{1}{2}$	76	1 52	7.28	14.32	2.31	1.75
3	1 00	2 00	9.44	18.38	2.89	2.28
3 $\frac{1}{2}$	1 34	2 68	12.92	22.63	3.36	2.72
4	1 66	3 32	13.44	24.88	3.82	3.14
5	2 20	4 40	....	....	....	....
6	3 00	6 00	....	....	....	....

The outside diameter of Extra and Double Extra Strong is always the same as ordinary pipe.

WROUGHT IRON STAY-BOLT TUBES.

INSIDE DIAMETER. INCHES.	OUTSIDE DIAMETER. INCHES.	WEIGHT PER FOOT. POUNDS.	PRICE PER POUND. CENTS.	INSIDE DIAMETER. INCHES.	OUTSIDE DIAMETER. INCHES.	WEIGHT PER FOOT. POUNDS.	PRICE PER FOOT. POUNDS.
$\frac{5}{16}$	$\frac{14}{16}$	1.70	12	$\frac{7}{16}$	1 $\frac{3}{16}$	3.10	12
$\frac{5}{16}$	$\frac{15}{16}$	2.21	12	$\frac{8}{16}$	1 $\frac{4}{16}$	3.39	12
$\frac{6}{16}$	1	2.40	12	$\frac{10}{16}$	1 $\frac{6}{16}$	3.99	12
$\frac{6}{16}$	1 $\frac{1}{16}$	2.61	12	$\frac{12}{16}$	1 $\frac{8}{16}$	4.13	12
$\frac{7}{16}$	1 $\frac{2}{16}$	3.00	12				

MANUFACTURERS' REVISED PRICE LIST.

LIGHT WROUGHT IRON

ARTESIAN, SALT AND OIL WELL CASING.

Fitted with Screw and Socket or Inserted Joint.

TO TAKE THE PLACE OF ALL PREVIOUS LISTS. SUBJECT TO CHANGE WITHOUT NOTICE.

ADOPTED DECEMBER 17, 1883.

NOMINAL INSIDE DIAMETER.	PRICE PER FOOT.	ACTUAL OUTSIDE DIAMETER.	NOMINAL WEIGHT PER FT. POUNDS.	NOMINAL INSIDE DIAMETER.	PRICE PER FOOT.	ACTUAL OUTSIDE DIAMETER.	NOMINAL WEIGHT PER FT. POUNDS.
2 in.	\$0 25	2 $\frac{1}{4}$ in.	2.23	4 $\frac{3}{4}$ in.	\$0 72	5 in.	7.25
2 $\frac{1}{4}$ "	28	2 $\frac{1}{2}$ "	2.75	5 "	79	5 $\frac{1}{4}$ "	7.66
2 $\frac{1}{2}$ "	31	2 $\frac{3}{4}$ "	3.00	5 $\frac{3}{8}$ "	86	5 $\frac{1}{2}$ "	8.08
2 $\frac{3}{4}$ "	34	3 "	3.33	5 $\frac{5}{8}$ "	1 00	6 "	9.35
3 "	38	3 $\frac{1}{4}$ "	3.95	6 $\frac{1}{4}$ "	1 30	6 $\frac{5}{8}$ "	10.06
3 $\frac{1}{4}$ "	41	3 $\frac{1}{2}$ "	4.27	6 $\frac{3}{8}$ "	1 45	7 "	12.45
3 $\frac{1}{2}$ "	45	3 $\frac{3}{4}$ "	4.60	7 $\frac{1}{8}$ "	1 85	8 "	15.10
3 $\frac{3}{4}$ "	50	4 "	5.33	8 $\frac{1}{4}$ "	2 10	8 $\frac{5}{8}$ "	16.15
4 "	56	4 $\frac{1}{4}$ "	5.50	8 $\frac{3}{8}$ "	2 25	9 "	17.25
4 $\frac{1}{4}$ "	60	4 $\frac{1}{2}$ "	6.00	9 $\frac{1}{8}$ "	2 75	10 "	19.00
4 $\frac{1}{2}$ "	66	4 $\frac{3}{4}$ "	6.50				

Intermediate sizes of Casing not on List, charged at price of next regular larger size.

MANUFACTURERS' REVISED PRICE LIST.

(NETT.)

HEAVY ARTESIAN WELL TUBE and DRIVE PIPE

With Long Socket or Flush Joint, finished smooth inside.

TO TAKE THE PLACE OF ALL PREVIOUS LISTS. SUBJECT TO CHANGE WITHOUT NOTICE.

ADOPTED DECEMBER 17, 1883.

NOMINAL INSIDE DIAMETER.	PRICE PER FOOT.	WEIGHT PER FOOT.	NOMINAL INSIDE DIAMETER.	PRICE PER FOOT.	WEIGHT PER FOOT.
1 in.	\$0 08	1.67	4 $\frac{1}{2}$ in.	\$0 60	12.49
1 $\frac{1}{4}$ "	10	2.25	5 "	66	14.56
1 $\frac{1}{2}$ "	12	2.69	6 "	90	18.77
2 "	15	3.66	7 "	1 20	23.41
2 $\frac{1}{2}$ "	22	5.77	8 "	1 65	28.35
3 "	30	7.54	9 "	2 20	34.01
3 $\frac{1}{2}$ "	40	9.05	10 "	3 00	40.64
4 "	50	10.72	12 "	4 50	54.65

MANUFACTURERS' PRICE LIST OF BOILER TUBES.

Adopted December 17, 1883.

Outside Diameter, inches.....	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	3¾	4	4½	5
Thickness, Wire Gauge.....	15	15	14	13	13	13	12	12	12	11	11	11	10	10	9
Price per foot.....	.23	.23	.23	.22	.22	.25	.28	.31	.34	.38	.41	.45	.50	.60	.72
Weight per foot, pounds.....	.71	.90	1.25	1.66	1.98	2.24	2.75	3.04	3.33	3.96	4.27	4.59	5.32	6.01	7.23

Outside Diameter, inches.....	6	7	8	9	10	11	12	13	14	15
Thickness, Wire Gauge.....	8	8	8	7½	6½	5	4½	4	3½	3
Price per foot.....	\$1.00	1.45	1.85	2.25	2.75	3.25	3.55	4.20	4.75	5.75
Weight per foot, pounds.....	9.35	12.43	15.11	18.00	22.19					

EXTRA WIRE GAUGES.

For extra Wire Gauge Boiler Tubes away from standard, not exceeding four wire gauges, add one and one-half cents for each inch in diameter to the list price per foot for each additional number. To calculate price take discounts from list prices of regular tubes and add net charge for extra Wire Gauge.

FOR ONE NUMBER.	FOR TWO NUMBERS.	FOR THREE NUMBERS.	FOR FOUR NUMBERS.
2 inch, 2 cents.	2 inch, 4 cents.	2 inch, 6 cents.	2 inch, 8 cents.
2¼ " 2¼ "	2¼ " 4½ "	2¼ " 4½ "	2¼ " 9 "
2½ " 2½ "	2½ " 5 "	2½ " 7½ "	2½ " 10 "

And so on for every size.

Intermediate sizes not on list, same price as size above.
Swagging or swelling 2 inch or 2¼ inch tubes, five cents per end extra.
No reduction made or allowed for tubes lighter than the standard.

A charge of eighty cents per hour will be made for cutting screws on boiler tubes.
Lock nuts for stay bolt tubes must be charged for extra, and never included in price of tubes.

SAFE ENDS.

NET PRICES FOR SAFE ENDS TO 6 INCHES LONG, INCLUSIVE.

Over 6 inches long, the extra length will be charged for in proportion.

Size	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	3¾	4	4½	5	6
Each End.....	.13	.13	.13	.13	.13	.14	.16	.18	.20	.22	.25	.27	.29	.32	.37	.45

NET PRICES FOR SAFE ENDS PUT ON NEW BOILER TUBES.

Size	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	3¾	4	4½	5	6
Each End.....	.20	.20	.20	.20	.20	.22	.23	.27	.31	.34	.38	.41	.44	.49	.56	.69

NET PRICES FOR REPAIRING AND SAFE ENDING OLD BOILER TUBES.

Size	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	3¾	4	4½	5	6
Ea. Boiler Tube, both ends	.60	.60	.60	.60	.60	.68	.80	.94	1.00	1.17	1.40	1.61	1.78	2.08	2.70	3.12

No additional charge will be made for safe ends of extra wire gauge. All boiler tubes under 12 inches long to be called safe ends. The charges for extra gauges, safe ends, etc., are not subject to the current discount from price list of tubes, but are in all cases net.

EXTRA LENGTHS OF BOILER TUBES.

The rule governing prices of lengths of tubes over 18 feet was abolished July 15, and instead thereof, the following adopted: The list prices cover all tubes up to and including 8 inch diameter and 20 feet long. For over that length, an extra charge of ten per cent. will be made on net of invoices. The list prices of 9 inch and upwards are for any length.

TELEGRAPH CIPHER FOR ORDERING.

PIPE.

NUMBER OF FEET.		SIZE.	BLACK.	GALVANIZED.
100.....	ASIA.	$\frac{1}{8}$	ALLEGHENY.	
200.....	BELGIUM.	$\frac{1}{4}$	BALTIMORE.	AMAZON.
300.....	CHILI.	$\frac{3}{8}$	CAMDEN.	BAY.
400.....	DENMARK.	$\frac{1}{2}$	DETROIT.	COLORADO
500.....	EGYPT.	$\frac{3}{4}$	ERIE.	DANUBE.
600.....	FRANCE.	1.....	FAIRMOUNT.	ELBE.
700.....	GERMANY.	$1\frac{1}{4}$	GALENA.	FIRTH.
800.....	HOLLAND.	$1\frac{1}{2}$	HARRISBURG.	GANGES.
900.....	IRELAND.	2.....	ITHACA.	HUDSON.
1000.....	JAPAN.	$2\frac{1}{2}$	JAMESTOWN.	INDUS.
1500.....	JERSEY.	3.....	KENSINGTON.	JUNIATA.
2000.....	KENTUCKY.	$3\frac{1}{2}$	LANCASTER	KANAWHA.
2500.....	KANSAS.	4.....	MACON.	LAKE.
3000.....	LIBERIA.	$4\frac{1}{2}$	QUINCY.	MIAMI.
3500.....	LAPLAND.	5.....	NEWARK.	NILE.
4000.....	MAINE.	6.....	ONEIDA.	OSAGE.
4500.....	MEXICO.	7.....	PARIS.	PO.
5000.....	NEVADA.	8.....	READING.	RHINE.
6000.....	OHIO.	9.....	SALEM.	SEINE.
7000.....	PERU.	10.....	TROY.	TWEED.
8000.....	RUSSIA.			
9000.....	SPAIN.			
10000.....	TEXAS.			

NUMBER OF BOILER TUBES REQUIRED.

1..MAB.	18..MARSH.	35..MENSE.	52..MIND.	69..MOLE.	86..MOW.	250..NUT.
2..MAC.	19..MART.	36..MENT.	53..MINOR.	70..MONDE.	87..MUCH.	300..OBEY.
3..MAD.	20..MASK.	37..MERE.	54..MINT.	71..MONK.	88..MUD.	350..OLD.
4..MAG.	21..MAST.	38..MERL.	55..MIRE.	72..MONT.	89..MUFF.	400..PAD.
5..MAIL.	22..MAT.	39..MESH.	56..MIRK.	73..MOP.	90..MUFTI.	450..PIN.
6..MAID.	23..MATCH.	40..MET.	57..MIRTH.	74..MORAL.	91..MULCT.	500..QUAD.
7..MAIN.	24..MATH.	41..MEW.	58..MISS.	75..MORE.	92..MULL.	550..QUOTE.
8..MAKE.	25..MATE.	42..MICE.	59..MITE.	76..MORN.	93..MUMP.	600..RAPID.
9..MAN.	26..MAUL.	43..MID.	60..MIX.	77..MORRIS.	94..MURAL.	650..ROW.
10..MANKS.	27..MAY.	44..MIDGE.	61..MIZZEN.	78..MORSE.	95..MUSE.	700..SAD.
11..MANOR.	28..MAZE.	45..MIDST.	62..MOAT.	79..MOST.	96..MUSH.	750..SCOT.
12..MANY.	29..MEAD.	46..MIGHT.	63..MOB.	80..MOT.	97..MUSK.	800..TAP.
13..MAR.	30..MEAL.	47..MILD.	64..MOCK.	81..MOTH.	98..MUTE.	850..TRY.
14..MARCH.	31..MEAN.	48..MILE.	65..MODE.	82..MOULD.	99..MYSTIC.	900..UGLY.
15..MARS.	32..MEAT.	49..MILK.	66..MOIL.	83..MOUNT.	100..MYRTLE.	950..URN.
16..MARKS.	33..MELT.	50..MINCE.	67..MOIST.	84..MOUTH.	150..NAB.	1000..VAST.
17..MARL.	34..MEND.	51..MINGLE.	68..MOLD.	85..MOVE.	200..NICE.	

DIAMETER OF BOILER TUBES REQUIRED.

O. D. Inch.		O. D. Inch.		O. D. Inch.		O. D. Inch.		O. D. Inch.	
1.....	ALBATROSS.	$2\frac{1}{4}$	FINCH.	$3\frac{1}{2}$	KITE.	6.....	PLOVER.	11.....	STARLING.
$1\frac{1}{4}$	BITTERN.	$2\frac{1}{2}$	GOOSE.	$3\frac{3}{4}$	LARK.	7.....	PARROT.	12.....	TEAL.
$1\frac{1}{2}$	CONDOR.	$2\frac{3}{4}$	HAWK.	4.....	MACAW.	8.....	QUAIL.	13.....	VULTURE.
$1\frac{3}{4}$	DUCK.	3.....	IBIS.	$4\frac{1}{2}$	NIGHTINGALE.	9.....	ROBIN.	14.....	WIDGEON.
2.....	EAGLE.	$3\frac{1}{4}$	JAY.	5.....	OWL.	10.....	RAVEN.	15.....	WREN.

LENGTH IN FEET OF BOILER TUBES REQUIRED.

Feet.		Feet.		Feet.		Feet.		Feet.	
1.....	APE.	6.....	FOX.	11.....	KANGAROO.	16.....	PANTHER.	21.....	UNICORN.
2.....	BADGER.	7.....	GOAT.	12.....	LION.	17.....	QUAGGA.	22.....	VAMPIRE.
3.....	CAT.	8.....	HORSE.	13.....	MULE.	18.....	RAM.	23.....	WOLF.
4.....	DOG.	9.....	IBEX.	14.....	NYLGAW.	19.....	SHEEP.	24.....	ZEBRA.
5.....	ELK.	10.....	JACKALL.	15.....	OTTER.	20.....	TIGER.		

LENGTH IN INCHES OF BOILER TUBES REQUIRED.

Inch.	Inch.	Inch.	Inch.
1.....ALEWIFE.	4.....DOLPHIN.	7.....GRAMPUS.	10.....MULLET.
2.....BASS.	5.....EEL.	8.....HAKE.	11.....NAUTILUS.
3.....COD.	6.....FLOUNDER.	9.....LOBSTER.	12.....OYSTER.

LENGTH IN FRACTIONS OF AN INCH REQUIRED.

$\frac{1}{8}$... DEW.	$\frac{1}{4}$... HAIL.	$\frac{3}{8}$... ICE.	$\frac{1}{2}$... RAIN.	$\frac{5}{8}$... SNOW.	$\frac{3}{4}$... SLEET.	$\frac{7}{8}$... WATER.
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WIRE GAUGE.

To be used only when the required thickness differs from standard.

No.	No.	No.	No.
1.....APOLLO.	6.....FLORA.	11.....LUNA.	$\frac{3}{16}$.....PAN.
2.....BACCHUS.	7.....GRACES.	12.....MERCURY.	$\frac{1}{4}$.....SATURN.
3.....CUPID.	8.....HEBE.	13.....NEPTUNE.	$\frac{3}{8}$.....URANUS.
4.....DIANA.	9.....IRIS.	14.....ORPHEUS.	
5.....EREBUS.	10.....JUPITER.		

QUERIES.

ACORN...At what price can you furnish.....?	DRILL....What is the lowest contract rate of freight you can obtain on.....?
ALLOY...At what price can you buy.....?	EXPRESS...What is the freight per 100 lbs., by express, on.....?
BRANCH..At what price, and how soon can you furnish.....?	FARM. ...Have you shipped order.....inst.?
COIN....Have you in stock, and can you furnish.....?	FIST.....Have you shipped us any.....?
	GATE....When can you ship.....?

PHRASES.

ABOVE...Ship immediately by express.....	EBONY...Particulars go by mail.
ACTIVE...Ship immediately by steamer.....	FLAX ....Will wait here for reply by mail.
ADRIFT...Ship immediately by rail.....	GABLE...We can not make
AFOOT...Suspend shipment of order of....inst.	GEM ....We will commence making.....
AGATE...Send tracer immediately for shipment of.....	GILT....Suspend work on order of.....inst. until further instructions.
AIR.....Your telegram came too late to stop shipment.....	GOLD ....You can vary the length, but send not less than.....
ALOFT...We have shipped per.....	GRAIN...You can vary the thickness, but not more than.....
ANVIL...We shipped your order on.....	GRAPE...We have suspended work on your order.
APPLE...We will ship you immediately order....	GUARD...We can (or will) vary the lengths, and will send.....
ARCHER..We have suspended shipment of your order of.....	GULF ....We can (or will) vary the thickness, and will send.....
ATLAS...We will ship your order on.....	HARP....None of the goods you order are in stock.
BAIT....Please reply immediately by telegraph.	HEMP...We have in stock, and can furnish you at.....
BEACH...We offer you for reply by telegraph.	HORN...We have none in stock, but will make and ship by.....
BITE. ...We offer you for reply by mail.	IDOL....Freight by express per 100 lbs. is.....
BOAT....Telegraph us best offer for.....	IRON....Freight by rail in car loads per 100 lbs. is.....
BRIG....If price too high, make counter offer by telegraph.	IVY.....Freight by rail in less than car loads is.....
CABLE...Delivery in our city.	PREFER..Give preference over all others to order Number.....
CEMENT..Delivery in New York.	
CHAIN...Delivery at Tide-water.	
COAL....Delivery in Philadelphia.	
CROWN...Free-on-board at works.	
DARK ....We can furnish you at.....	
DEXTER..The lowest price we can offer.....	
DISK....We can not accept your offer.....	
DRUG....We have entered your order for.....	

REVISED PRICE LIST AND CLASSIFICATION

OF

MALLEABLE IRON STEAM AND GAS FITTINGS,

Adopted by Manufacturers, March 1st, 1883.

Class A. Price.....Cents per Pound.

Elbows.....	$\frac{1}{8}$, $\frac{1}{2} \times \frac{1}{8}$, $\frac{3}{8} \times \frac{1}{8}$
Tees.....	$\frac{1}{8}$, $\frac{1}{8} \times \frac{1}{4}$, $\frac{1}{4} \times \frac{1}{8}$, $\frac{3}{8} \times \frac{1}{8}$
Reducing Couplings	$\frac{1}{2} \times \frac{1}{8}$, $\frac{3}{8} \times \frac{1}{8}$
Couplings, R. H.....	$\frac{1}{8}$

Class B. Price.....Cents per Pound.

Elbows and Tees.....	$\frac{1}{4}$ inch to $\frac{1}{4} \times \frac{3}{8}$ inclusive
Street Elbows.....	$\frac{1}{2}$, $\frac{3}{4}$, and 1
Elbows, side outlets.....	all sizes
Crosses.....	$\frac{1}{4}$ to 1 inch inclusive
Drop Ls and Drop Tees.....	all sizes
Caps, Plugs and Locknuts.....	$\frac{1}{4}$ to 1 inch inclusive
Reducing Couplings....	$\frac{3}{8} \times \frac{1}{4}$ to $1 \times \frac{3}{4}$ inclusive
Extension Pieces.....	
R. and L. Couplings.....	$\frac{1}{4}$ to $\frac{3}{4}$ inclusive
R. H. Couplings.....	$\frac{1}{4}$ and $\frac{3}{8}$
Return Bends.....	$\frac{3}{8}$ to $\frac{3}{4}$ inch inclusive
Chandelier Hooks	
Waste Nuts.....	

Class C. Price.....Cents per Pound.

Elbows and Tees.....	$\frac{1}{2}$, $\frac{3}{4}$, and 1
Street Elbows.....	$1\frac{1}{4} \times 1$, and larger
Crosses.....	$1\frac{1}{4}$ and larger
Caps, Plugs and Locknuts.....	$1\frac{1}{4}$ and larger
Reducing Couplings.....	$1\frac{1}{4} \times \frac{1}{2}$, and larger
R. and L. Couplings.....	1 and larger
R. H. Couplings.....	$\frac{1}{2}$, $\frac{3}{4}$, and 1
Return Bends.....	1 inch and larger
Straps (not galvanized).....	all sizes

Class D. Price.....Cents per Pound.

Elbows.....	$1\frac{1}{4} \times 1$ and larger
Tees.....	$1\frac{1}{4} \times \frac{3}{8} \times 1\frac{1}{4}$ and larger
R. H. Couplings.....	$1\frac{1}{4}$ and larger

Galvanized Fittings and Straps, 5 Cents per Pound Extra.

REVISED LIST

OF

Malleable and Cast Iron Fittings

FOR

Gas, Steam and Water Pipe.

Our new patterns for Cast Iron Fittings, for beauty, finish and strength, are unequaled by any others in the market.

In ordering, please state whether "Cast Iron" or "Malleable."

NOTE.—All classes and sizes are made in Malleable, from $\frac{1}{4}$ in. to 2 in. inclusive, also Ells, Tees, Crosses and Reducers, $2\frac{1}{2}$ in. to 4 in. as numbered, viz.: 38, 42, 46, 50, 254, 255, 256, 265, 266, 267, 268, 269, 282, 295, 391, 394, 397, 494, 495, 496, 497, 539, 542, 543, 547, 548 and 550. All other sizes above 2 in. are made of CAST IRON ONLY.

Also such sizes as are indicated by the letter "C" are made of Cast Iron.

We keep all sizes of "Gas or Plain Fittings" up to 2 in. except those marked "*", which indicates "Beaded."

We keep in stock "Malleable" Galvanized Fittings, such numbers as marked "G," also furnish TO ORDER Galvanized Cast Iron Fittings.

FITTINGS MADE TO ORDER AT AN EXTRA CHARGE.



ELBOWS.



No.		No.		No.	
1	$\frac{1}{8}$ x $\frac{1}{8}$	G C 18	1 x 1	41	3 x $2\frac{1}{2}$
2	$\frac{1}{4}$ x $\frac{1}{8}$	* 21	$1\frac{1}{4}$ x $\frac{3}{4}$	G 42	3 x 3
3	$\frac{1}{4}$ x $\frac{1}{4}$	G C 22	$1\frac{1}{4}$ x 1	G 46	$3\frac{1}{2}$ x $3\frac{1}{2}$
5	$\frac{3}{8}$ x $\frac{1}{4}$	G C 23	$1\frac{1}{4}$ x $1\frac{1}{4}$	G 50	4 x 4
C 6	$\frac{3}{8}$ x $\frac{3}{8}$	* 26	$1\frac{1}{2}$ x 1	52	$4\frac{1}{2}$ x $4\frac{1}{2}$
8	$\frac{1}{2}$ x $\frac{3}{8}$	G C 27	$1\frac{1}{2}$ x $1\frac{1}{4}$	54	5 x 5
G C 9	$\frac{1}{2}$ x $\frac{1}{2}$	G C 28	$1\frac{1}{2}$ x $1\frac{1}{2}$	56	6 x 6
* 11	$\frac{3}{4}$ x $\frac{3}{8}$	G C 32	2 x $1\frac{1}{2}$	56 $\frac{1}{2}$	7 x 7
G C 12	$\frac{3}{4}$ x $\frac{1}{2}$	G C 33	2 x 2	57	8 x 8
G C 13	$\frac{3}{4}$ x $\frac{3}{4}$	37	$2\frac{1}{2}$ x 2	58	9 x 9
C * 16	1 x $\frac{1}{2}$	G 38	$2\frac{1}{2}$ x $2\frac{1}{2}$	59	10 x 10
G C 17	1 x $\frac{3}{4}$				



STREET ELBOWS.

No.		No.		No.	
G 60	$\frac{1}{2}$ x $\frac{1}{2}$	G 65	1 x 1	G 71	$1\frac{1}{2}$ x $1\frac{1}{4}$
G 62	$\frac{3}{4}$ x $\frac{3}{4}$	G 67	$1\frac{1}{4}$ x 1	G 72	$1\frac{1}{2}$ x $1\frac{1}{2}$
G 64	1 x $\frac{3}{4}$	G 68	$1\frac{1}{4}$ x $1\frac{1}{4}$	G 75	2 x 2

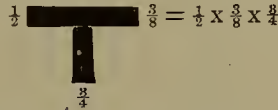


ELBOWS. WITH SIDE OUTLET.

No.		No.		No.	
77	$\frac{3}{8}$ x $\frac{3}{8}$ x $\frac{1}{4}$	84	$\frac{3}{4}$ x $\frac{3}{4}$ x $\frac{1}{2}$	88	1 x 1 x $\frac{1}{2}$
80	$\frac{1}{2}$ x $\frac{1}{2}$ x $\frac{3}{8}$	85	$\frac{3}{4}$ x $\frac{3}{4}$ x $\frac{3}{4}$	89	1 x 1 x $\frac{3}{4}$
83	$\frac{3}{4}$ x $\frac{3}{4}$ x $\frac{3}{8}$	87	1 x 1 x $\frac{3}{8}$	90	1 x 1 x 1

TEES.

In describing TEES, the RUN is first named, then the outlet, thus :



No.			
100.....	1/2X	1/2X	1/2
107.....	1/2X	1/2X	1/4
108.....	1/2X	1/2X	3/8
114.....	3/8X	1/2X	1/4
115.....	3/8X	1/2X	1/2
116.....	3/8X	1/2X	1/2
120.....	3/8X	3/8X	1/4
C 121.....	3/8X	3/8X	3/8
C 122.....	3/8X	3/8X	1/2
128.....	1/2X	1/2X	3/8
129.....	1/2X	3/8X	1/4
C 130.....	1/2X	3/8X	3/8
131.....	1/2X	3/8X	1/2
132.....	1/2X	3/8X	3/4
134.....	1/2X	1/2X	1/4
C 135.....	1/2X	1/2X	3/8
G C 136.....	1/2X	1/2X	1/2
G C 137.....	1/2X	1/2X	3/4
146.....	3/4X	3/8X	1/2
147.....	3/4X	3/8X	3/4
* 149.....	3/4X	1/2X	1/4
150.....	3/4X	1/2X	3/8
G C 151.....	3/4X	1/2X	1/2
G C 152.....	3/4X	1/2X	3/4
C* 153.....	3/4X	1/2X	1
154.....	3/4X	3/4X	1/4
G 155.....	3/4X	3/4X	3/8
G C 156.....	3/4X	3/4X	1/2
G C 157.....	3/4X	3/4X	3/4
G C 158.....	3/4X	3/4X	1
* 162.....	1 X	3/8X	3/4
* 163.....	1 X	3/8X	1
* 166.....	1 X	1/2X	1/2
C 167.....	1 X	1/2X	3/4
* 168.....	1 X	1/2X	1
* 170.....	1 X	3/4X	3/8
G C 171.....	1 X	3/4X	1/2
G C 172.....	1 X	3/4X	3/4
G C* 173.....	1 X	3/4X	1
C* 174.....	1 X	3/4X	1 1/4
175.....	1 X	1 X	1/4
176.....	1 X	1 X	3/8
G C 177.....	1 X	1 X	1/2
G C 178.....	1 X	1 X	3/4
G C 179.....	1 X	1 X	1
G C* 180.....	1 X	1 X	1 1/4
* 182.....	1 1/4X	3/8X	1 1/4
* 184.....	1 1/4X	1/2X	1
C* 185.....	1 1/4X	1/2X	1 1/4
* 188.....	1 1/4X	3/4X	3/4
C 189.....	1 1/4X	3/4X	1

No.			
C* 190.....	1 1/4X	3/4X	1 1/4
* 191.....	1 1/4X	1 X	3/8
* 192.....	1 1/4X	1 X	1/2
G C 193.....	1 1/4X	1 X	3/4
G C 194.....	1 1/4X	1 X	1
G C* 195.....	1 1/4X	1 X	1 1/4
C* 196.....	1 1/4X	1 X	1 1/2
* 197.....	1 1/4X	1 1/4X	3/8
C 198.....	1 1/4X	1 1/4X	1/2
G C 199.....	1 1/4X	1 1/4X	3/4
G C 200.....	1 1/4X	1 1/4X	1
G C 201.....	1 1/4X	1 1/4X	1 1/4
G C* 202.....	1 1/4X	1 1/4X	1 1/2
C* 205.....	1 1/2X	1/2X	1 1/2
C* 206.....	1 1/2X	3/4X	1 1/4
C* 207.....	1 1/2X	3/4X	1 1/2
G * 210.....	1 1/2X	1 X	1
G C* 211.....	1 1/2X	1 X	1 1/4
C* 212.....	1 1/2X	1 X	1 1/2
C 214.....	1 1/2X	1 1/4X	3/4
G C 215.....	1 1/2X	1 1/4X	1
G C 216.....	1 1/2X	1 1/4X	1 1/4
G C* 217.....	1 1/2X	1 1/4X	1 1/2
* 219.....	1 1/2X	1 1/4X	3/8
* 220.....	1 1/2X	1 1/4X	1/2
G C 221.....	1 1/2X	1 1/4X	3/4
C 222.....	1 1/2X	1 1/4X	1
G C 223.....	1 1/2X	1 1/4X	1 1/4
G C 224.....	1 1/2X	1 1/4X	1 1/2
* 224 1/2.....	1 1/2X	1 1/4X	2
G C* 225.....	1 1/2X	1 1/4X	2
* 226.....	2 X	1/2X	2
C* 226 1/2.....	2 X	3/4X	2
C* 227.....	2 X	1 X	2
G * 227 1/2.....	2 X	1 1/4X	1 1/4
C 228.....	2 X	1 1/4X	1 1/2
C* 230.....	2 X	1 1/4X	2
G C 231.....	2 X	1 1/2X	1 1/4
G C 232.....	2 X	1 1/2X	1 1/2
C* 233.....	2 X	1 1/2X	2
234.....	2 X	1 1/2X	2 1/2
* 235.....	2 X	2 X	1/2
C 236.....	2 X	2 X	3/4
G C 237.....	2 X	2 X	1
G C 238.....	2 X	2 X	1 1/4
G C 239.....	2 X	2 X	1 1/2
G C 240.....	2 X	2 X	2
249.....	2 X	2 X	2 1/2
251.....	2 1/2X	2 1/2X	3/4
252.....	2 1/2X	2 1/2X	1

No.			
253.....	2 1/2X	2 1/2X	1 1/4
G 254.....	2 1/2X	2 1/2X	1 1/2
G 255.....	2 1/2X	2 1/2X	2
G 256.....	2 1/2X	2 1/2X	2 1/2
257.....	2 1/2X	2 X	1 1/2
258.....	2 1/2X	1 1/2X	2
259.....	2 1/2X	2 X	2
260.....	2 1/2X	2 X	3
261.....	2 1/2X	2 1/2X	3
262.....	3 X	2 X	2
263.....	3 X	2 X	2 1/2
264.....	3 X	3 X	1
265.....	3 X	3 X	1 1/4
266.....	3 X	3 X	1 1/2
G 267.....	3 X	3 X	2
G 268.....	3 X	3 X	2 1/2
G 269.....	3 X	3 X	3
270.....	3 X	3 X	3 1/2
271.....	3 X	3 X	4
272.....	3 X	2 1/2X	2
273.....	3 X	2 1/2X	2 1/2
274.....	3 1/2X	2 1/2X	2 1/2
275.....	3 1/2X	3 X	2 1/2
276.....	3 1/2X	2 1/2X	3
279.....	3 1/2X	3 1/2X	2
280.....	3 1/2X	3 1/2X	2 1/2
281.....	3 1/2X	3 1/2X	3
282.....	3 1/2X	3 1/2X	3 1/2
285.....	4 X	3 X	3
287.....	4 X	3 1/2X	3
289.....	4 X	3 X	3 1/2
291.....	4 X	4 X	2
292.....	4 X	4 X	2 1/2
293.....	4 X	4 X	3
294.....	4 X	4 X	3 1/2
G 295.....	4 X	4 X	4
296.....	4 1/2X	4 1/2X	4 1/2
296 1/2.....	5 X	4 X	4
297.....	5 X	5 X	3
298.....	5 X	5 X	4
299.....	5 X	5 X	5
300.....	6 X	5 X	5
301.....	6 X	6 X	3
302.....	6 X	6 X	4
303.....	6 X	6 X	5
304.....	6 X	6 X	6
305.....	7 X	7 X	7
308.....	8 X	8 X	8
309.....	9 X	9 X	9
310.....	10 X	10 X	10



CROSSES.

The outlets of a Cross are always the same size, and both denoted by the last figure.



No.	Outlets.	No.	Outlets.	No.	Outlets.
311.....	$\frac{3}{8}$ X $\frac{1}{4}$ X $\frac{1}{4}$	* 360.....	$1\frac{1}{4}$ X $1\frac{1}{4}$ X $\frac{3}{8}$	338.....	$2\frac{1}{2}$ X $2\frac{1}{2}$ X $1\frac{1}{4}$
312.....	$\frac{3}{8}$ X $\frac{3}{8}$ X $\frac{1}{4}$	* 361.....	$1\frac{1}{4}$ X $1\frac{1}{4}$ X $\frac{1}{2}$	339.....	$2\frac{1}{2}$ X $2\frac{1}{2}$ X $1\frac{1}{2}$
313.....	$\frac{3}{8}$ X $\frac{3}{8}$ X $\frac{3}{8}$	* 362.....	$1\frac{1}{4}$ X $1\frac{1}{4}$ X $\frac{3}{4}$	390.....	$2\frac{1}{2}$ X $2\frac{1}{2}$ X 2
316.....	$\frac{1}{2}$ X $\frac{1}{2}$ X $\frac{1}{4}$	C * 363.....	$1\frac{1}{4}$ X $1\frac{1}{4}$ X 1	391.....	$2\frac{1}{2}$ X $2\frac{1}{2}$ X $2\frac{1}{2}$
317.....	$\frac{1}{2}$ X $\frac{3}{8}$ X $\frac{3}{8}$	C * 364.....	$1\frac{1}{4}$ X $1\frac{1}{4}$ X $1\frac{1}{4}$	392.....	3 X 3 X 2
319.....	$\frac{1}{2}$ X $\frac{1}{2}$ X $\frac{1}{4}$	C * 367.....	$1\frac{1}{4}$ X $1\frac{1}{4}$ X 1	393.....	3 X 3 X $2\frac{1}{2}$
320.....	$\frac{1}{2}$ X $1\frac{1}{2}$ X $\frac{1}{4}$	* 368.....	$1\frac{1}{2}$ X $1\frac{1}{4}$ X $1\frac{1}{4}$	394.....	3 X 3 X 3
321.....	$\frac{1}{2}$ X $1\frac{1}{2}$ X $\frac{1}{2}$	* 369.....	$1\frac{1}{2}$ X $1\frac{1}{2}$ X $\frac{3}{8}$	394 $\frac{1}{2}$	$3\frac{1}{2}$ X $3\frac{1}{2}$ X $2\frac{1}{2}$
330.....	$\frac{3}{4}$ X $\frac{1}{2}$ X $\frac{3}{8}$	* 370.....	$1\frac{1}{2}$ X $1\frac{1}{2}$ X $\frac{1}{4}$	395.....	$3\frac{1}{2}$ X $3\frac{1}{2}$ X 3
331.....	$\frac{3}{4}$ X $\frac{1}{2}$ X $\frac{1}{2}$	* 371.....	$1\frac{1}{2}$ X $1\frac{1}{2}$ X $\frac{3}{4}$	396.....	$3\frac{1}{2}$ X $3\frac{1}{2}$ X $3\frac{1}{2}$
334.....	$\frac{3}{4}$ X $\frac{3}{4}$ X $\frac{3}{4}$	C * 372.....	$1\frac{1}{2}$ X $1\frac{1}{2}$ X 1	397.....	4 X 4 X 3
335.....	$\frac{3}{4}$ X $\frac{3}{4}$ X $\frac{1}{2}$	C * 373.....	$1\frac{1}{2}$ X $1\frac{1}{2}$ X $1\frac{1}{4}$	398.....	4 X 4 X $3\frac{1}{2}$
C 336.....	$\frac{3}{4}$ X $\frac{3}{4}$ X $\frac{3}{4}$	C * 374.....	$1\frac{1}{2}$ X $1\frac{1}{2}$ X $1\frac{1}{2}$	399.....	4 X 4 X 4
346.....	1 X $\frac{3}{4}$ X $\frac{1}{2}$	* 376.....	2 X $1\frac{1}{2}$ X $1\frac{1}{4}$	399 $\frac{1}{4}$	$4\frac{1}{2}$ X $4\frac{1}{2}$ X $4\frac{1}{2}$
C 347.....	1 X $\frac{3}{4}$ X $\frac{1}{2}$	* 379.....	2 X 2 X $\frac{1}{2}$	399 $\frac{1}{2}$	5 X 5 X 5
350.....	1 X 1 X $\frac{3}{8}$	* 380.....	2 X 2 X $\frac{3}{4}$	400.....	6 X 6 X 6
351.....	1 X 1 X $\frac{1}{2}$	C * 381.....	2 X 2 X 1	400 $\frac{1}{2}$	7 X 7 X 7
C 352.....	1 X 1 X $\frac{3}{4}$	C * 382.....	2 X 2 X $1\frac{1}{4}$	401.....	8 X 8 X 8
C 353.....	1 X 1 X 1	C * 383.....	2 X 2 X $1\frac{1}{2}$	401 $\frac{1}{2}$	9 X 9 X 9
* 357.....	$1\frac{1}{4}$ X 1 X $\frac{3}{4}$	C * 384.....	2 X 2 X 2	401 $\frac{3}{4}$	10 X 10 X 10
* 358.....	$1\frac{1}{4}$ X 1 X 1	387.....	$2\frac{1}{2}$ X 2 X $1\frac{1}{2}$		

DROP ELBOWS.



No.	Female.	Drop.
402.....	$\frac{1}{4}$ X $\frac{1}{4}$	$\frac{1}{4}$
403.....	$\frac{1}{4}$ X $\frac{1}{4}$	$\frac{1}{4}$
404.....	$\frac{3}{8}$ X $\frac{3}{8}$	$\frac{3}{8}$
G 406.....	$\frac{1}{2}$ X $\frac{1}{2}$	$\frac{1}{2}$
G 407.....	$\frac{3}{4}$ X $\frac{3}{4}$	$\frac{3}{4}$

DROP ELBOWS.



No.	Male and Female.	Drop.
413.....	$\frac{1}{4}$ X $\frac{3}{8}$	$\frac{3}{8}$
414.....	$\frac{3}{8}$ X $\frac{3}{8}$	$\frac{3}{8}$
415.....	$\frac{1}{2}$ X $\frac{3}{8}$	$\frac{3}{8}$
With Drop $2\frac{1}{4}$ inches long.		
422.....	$\frac{3}{8}$ X $\frac{3}{8}$	$\frac{3}{8}$
423.....	$\frac{1}{2}$ X $\frac{3}{8}$	$\frac{3}{8}$

DROP ELBOWS.



No.	Flanges Right Side.	Drop.
431.....	$\frac{1}{4}$ X $\frac{3}{8}$	$\frac{3}{8}$
432.....	$\frac{3}{8}$ X $\frac{3}{8}$	$\frac{3}{8}$

DROP ELBOWS.



No.	Flanges Left Side.	Drop.
436.....	$\frac{1}{4}$ X $\frac{3}{8}$	$\frac{3}{8}$
437.....	$\frac{3}{8}$ X $\frac{3}{8}$	$\frac{3}{8}$

DROP TEES.



No.	Female.	Drop.
449.....	$\frac{3}{8}$ X $\frac{3}{8}$	$\frac{3}{8}$ X $\frac{1}{4}$
450.....	$\frac{3}{8}$ X $\frac{3}{8}$	$\frac{3}{8}$ X $\frac{3}{8}$
452.....	$\frac{1}{2}$ X $\frac{3}{8}$	$\frac{3}{8}$ X $\frac{3}{8}$
454.....	$\frac{1}{2}$ X $\frac{1}{2}$	$\frac{1}{2}$ X $\frac{3}{8}$
G 455.....	$\frac{1}{2}$ X $\frac{1}{2}$	$\frac{1}{2}$ X $\frac{1}{2}$
458.....	$\frac{3}{4}$ X $\frac{1}{2}$	$\frac{3}{8}$ X $\frac{3}{8}$
460.....	$\frac{3}{4}$ X $\frac{3}{4}$	$\frac{3}{8}$ X $\frac{3}{8}$
463.....	1 X $\frac{3}{4}$	$\frac{3}{8}$ X $\frac{3}{8}$
466.....	1 X 1	X $\frac{3}{8}$

DROP TEES.



No.	Male and Female.	Drop.
471.....	$\frac{1}{4}$ X $\frac{1}{4}$	X $\frac{3}{8}$
472.....	$\frac{3}{8}$ X $\frac{1}{4}$	X $\frac{3}{8}$
473.....	$\frac{3}{8}$ X $\frac{3}{8}$	X $\frac{3}{8}$
474.....	$\frac{1}{2}$ X $\frac{3}{8}$	X $\frac{3}{8}$
475.....	$\frac{1}{2}$ X $\frac{1}{2}$	X $\frac{3}{8}$
476.....	$\frac{3}{4}$ X $\frac{1}{2}$	X $\frac{3}{8}$
477.....	$\frac{3}{4}$ X $\frac{3}{4}$	X $\frac{3}{8}$
478.....	1 X $\frac{3}{4}$	X $\frac{3}{8}$
479.....	1 X 1	X $\frac{3}{8}$
With Drop $2\frac{1}{4}$ inches long.		
480.....	$\frac{3}{8}$ X $\frac{3}{8}$	X $\frac{3}{8}$
481.....	$\frac{1}{2}$ X $\frac{3}{8}$	X $\frac{3}{8}$

CAPS.



G 486.....	$\frac{1}{4}$
G 487.....	$\frac{3}{8}$
G 488.....	$\frac{1}{2}$
G 489.....	$\frac{3}{4}$
G 490.....	1
G 491.....	$1\frac{1}{4}$
G 492.....	$1\frac{1}{2}$
G 493.....	2
G 494.....	$2\frac{1}{2}$
G 495.....	3
G 496.....	$3\frac{1}{2}$
G 497.....	4
497 $\frac{1}{2}$	$4\frac{1}{2}$
498.....	5
499.....	6
499 $\frac{1}{2}$	7
500.....	8
500 $\frac{1}{2}$	9
500 $\frac{3}{4}$	10

PLUGS—Cast.



503.....	$\frac{1}{4}$
504.....	$\frac{3}{8}$
G 505.....	$\frac{1}{2}$
G 506.....	$\frac{3}{4}$
G 507.....	1
G 508.....	$1\frac{1}{4}$
G 509.....	$1\frac{1}{2}$
G 510.....	2
G 511.....	$2\frac{1}{2}$
G 512.....	3
G 513.....	$3\frac{1}{2}$
G 514.....	4
G 515.....	$4\frac{1}{2}$
G 516.....	5
G 517.....	6
518.....	7
519.....	8

REDUCERS.



(Reducing Couplings.)

521	.....	$\frac{3}{8}$ X $\frac{1}{4}$
522	.....	$\frac{1}{2}$ X $\frac{1}{4}$
523	.....	$\frac{1}{2}$ X $\frac{3}{8}$
524	.....	$\frac{3}{4}$ X $\frac{3}{8}$
G 525	.....	$\frac{3}{4}$ X $\frac{1}{2}$
526	.....	1 X $\frac{3}{8}$
527	.....	1 X $\frac{1}{2}$
G 528	.....	1 X $\frac{3}{4}$
529	.....	$\frac{1}{4}$ X $\frac{1}{2}$
530	.....	$\frac{1}{4}$ X $\frac{3}{4}$
G 531	.....	$\frac{1}{4}$ X 1
531 $\frac{1}{2}$	.....	$\frac{1}{4}$ X $\frac{1}{2}$
532	.....	$\frac{1}{2}$ X $\frac{3}{4}$
G 533	.....	$\frac{1}{2}$ X 1
G 534	.....	$\frac{1}{2}$ X $\frac{1}{4}$
535	.....	2 X $\frac{3}{4}$
536	.....	2 X 1
G 537	.....	2 X $\frac{1}{4}$
G 538	.....	2 X $\frac{1}{2}$
539	.....	2 $\frac{1}{2}$ X $\frac{1}{2}$
542	.....	2 $\frac{1}{2}$ X 2
543	.....	3 X 2
547	.....	3 X 2 $\frac{1}{2}$
548	.....	3 $\frac{1}{2}$ X 3
550	.....	4 X 3
551	.....	4 $\frac{1}{2}$ X 4
555	.....	5 X 4
560	.....	6 X 5

MALLEABLE IRON COUPLINGS.



Right and Left.

571	.....	$\frac{1}{4}$
G 572	.....	$\frac{3}{8}$
G 573	.....	$\frac{1}{2}$
G 574	.....	$\frac{3}{4}$
G 575	.....	1
G 576	.....	$\frac{1}{4}$
G 577	.....	$\frac{1}{2}$
G 578	.....	2

WROUGHT IRON COUPLINGS.



Right Hand.

587	.....	$\frac{1}{8}$
588	.....	$\frac{1}{4}$
G 589	.....	$\frac{3}{8}$
590	.....	$\frac{1}{2}$
591	.....	$\frac{3}{4}$
592	1
593	$\frac{1}{4}$
594	$\frac{1}{2}$
595	2
596	2 $\frac{1}{2}$
597	3

598	$\frac{3}{4}$
599	4
	$\frac{1}{2}$
	5
	6
	7
	8
	9
	10

WASTE NUTS.



626	$\frac{3}{8}$
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LOCK NUTS.



601	$\frac{1}{4}$
602	$\frac{3}{8}$
603	$\frac{1}{2}$
604	$\frac{3}{4}$
605	1
606	$\frac{1}{4}$
607	$\frac{1}{2}$
608	2
609	2 $\frac{1}{2}$
610	3
611	3 $\frac{1}{2}$
612	4
612 $\frac{1}{2}$	4 $\frac{1}{2}$
613	5
613 $\frac{1}{2}$	6

WALL PLATES.

640	$\frac{3}{8}$
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STRAPS.



Plain or Galvanized.

614	$\frac{1}{4}$
615	$\frac{3}{8}$
616	$\frac{1}{2}$
617	$\frac{3}{4}$
618	1
619	$\frac{1}{4}$
620	$\frac{1}{2}$
621	2

CHANDELIER HOOKS.



637	$\frac{3}{8}$
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CHANDELIER LOOPS.



636	$\frac{3}{8}$
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EXTENSION PIECES.



Male and Female.

561	$\frac{3}{8}$ X $\frac{3}{8}$
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RETURN BENDS.



Open Pattern.	Malleable.	
No.	Size.	Dist. bet. Cen.
660	$\frac{1}{2}$	$\frac{1}{4}$
661	$\frac{3}{4}$	$\frac{1}{2}$
G 662	1	$\frac{1}{8}$
663	$\frac{1}{4}$	$\frac{2}{4}$
664	$\frac{1}{2}$	$\frac{2}{4}$
665	2	3
666	2 $\frac{1}{2}$	4

RETURN BENDS.



Close Pattern.	Cast Iron.	
No.	Size.	Dist. bet. Cen.
667	$\frac{3}{4}$	$\frac{1}{2}$
668	1	$\frac{1}{4}$
669	$\frac{1}{4}$	$\frac{2}{4}$
670	$\frac{1}{2}$	$\frac{2}{4}$
671	2	$\frac{3}{4}$
672	2 $\frac{1}{2}$	$\frac{3}{4}$
673	3	4 $\frac{1}{2}$
Also Cast Iron, Open Pattern.		
667 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{4}$
668 $\frac{1}{2}$	1	$\frac{2}{4}$
674	$\frac{1}{4}$	11

BUSHINGS.



* $\frac{1}{8}$ X $\frac{1}{3}$	3 X $\frac{1}{4}$
* $\frac{3}{8}$ X $\frac{1}{3}$	3 X $\frac{1}{2}$
$\frac{3}{8}$ X $\frac{1}{4}$	3 X 2
$\frac{1}{2}$ X $\frac{1}{4}$	3 X 2 $\frac{1}{2}$
$\frac{1}{2}$ X $\frac{3}{8}$	3 $\frac{1}{2}$ X $\frac{1}{2}$
$\frac{3}{4}$ X $\frac{1}{4}$	3 $\frac{1}{2}$ X 2
$\frac{3}{4}$ X $\frac{3}{8}$	3 $\frac{1}{2}$ X 2 $\frac{1}{2}$
$\frac{3}{4}$ X $\frac{1}{2}$	3 $\frac{1}{2}$ X 3
1 X $\frac{3}{8}$	4 X 2
1 X $\frac{1}{2}$	4 X 2 $\frac{1}{2}$
1 X $\frac{3}{4}$	4 X 3
$\frac{1}{4}$ X $\frac{1}{2}$	4 X 3 $\frac{1}{2}$
$\frac{1}{4}$ X $\frac{3}{4}$	4 $\frac{1}{2}$ X 2 $\frac{1}{2}$
$\frac{1}{4}$ X 1	4 $\frac{1}{2}$ X 3
$\frac{1}{2}$ X $\frac{3}{4}$	4 $\frac{1}{2}$ X 3 $\frac{1}{2}$
$\frac{1}{2}$ X 1	4 $\frac{1}{2}$ X 4
$\frac{1}{2}$ X $\frac{1}{4}$	5 X 3
2 X $\frac{3}{4}$	5 X 3 $\frac{1}{2}$
2 X 1	5 X 4
2 X $\frac{1}{4}$	5 X 4 $\frac{1}{2}$
2 X $\frac{1}{2}$	6 X 3
2 $\frac{1}{2}$ X 1	6 X 3 $\frac{1}{2}$
2 $\frac{1}{2}$ X $\frac{1}{4}$	6 X 4
2 $\frac{1}{2}$ X $\frac{1}{2}$	6 X 4 $\frac{1}{2}$
2 $\frac{1}{2}$ X 2	6 X 5
	7 X 6
	8 X 7

*Brass.



STANDARD COUPLINGS.



Wrought Iron.

Malleable Iron.

Size	Inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Wrought Iron, plain, R. H.	Each	06	06	07	09	12	14	17	21	28	43	70
Wrought Iron, plain, R. & L.	Each		09	11	14	18	21	25	32	42	86	1 40
Wrought Iron, galvanized, R. H.	Each		07	09	12	15	19	25	32	40	58	95
Wrought Iron, plain, R. H., faced for lock nut joint.			09	10	12	16	22	30	40	50	70	90
Malleable Iron, plain, R. & L.	Each		3	4	7	12	14	20	29	44		
Malleable Iron, galvanized, R. & L.	Each		4	6	9	15	19	28	39	56		
Size	Inches	3 1/2	4	4 1/2	5	6	7	8	9			
Wrought Iron, plain, R. H.	Each	85	1 05	1 30	1 85	2 50	3 40	4 50	5 50	7 90		
Wrought Iron, galvanized, R. H.	Each	1 10	1 45	1 80	2 50	3 50						



LONG SCREWS.

With Coupling and Lock-Nut Faced.

Size	Inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Standard length	Inches	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	7	8
Price, Standard length ...	Each	30	35	40	55	75	1 00	1 30	1 70	2 70	3 70

Long Screws, longer than Standard, made to order and charged as CUT PIPE.
THREADS, COUPLINGS AND LOCK-NUTS, EXTRA.

LOCK-NUT NIPPLES.

Made to Order and Charged as Cut Pipe. Threads Extra.

LOCK-NUT THREADS.

Size	Inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Price	Each	10	10	10	10	12	14	16	20	30	40



CLOSE.



SHOULDER.

NIPPLES.

Table of Sizes and Lengths Kept in Stock.

LENGTH INCHES,						SIZE.	PRICES.		PRICE OF PIPE WITH TWO THREADS.															
Close.	Short.	LONG					Inch.	Close or Short.	Long.	Inches.														
		5	6	7	8	9				10	11	12	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.
¾	1½	2	2½	3	3½	⅛	5	7	\$	16	\$	17	\$	18	\$	19	\$	20	\$	21	\$	22	\$	23
⅞	1½	2	2½	3	3½	¼	5	7		16		17		18		19		20		21		22		23
1	1½	2	2½	3	3½	⅜	6	8		17		18		19		20		21		22		23		25
1⅛	1½	2	2½	3	3½	½	7	10		18		19		20		21		22		23		25		27
1⅜	2	2½	3	3½	4	¾	8	11		20		21		22		23		25		27		29		31
1½	2	2½	3	3½	4	1	9	13		22		24		27		29		31		33		36		40
1⅝	2½	3	3½	4	4½	1¼	12	18		29		31		33		35		38		40		43		46
1¾	2½	3	3½	4	4½	1½	15	23		36		38		40		42		45		48		51		55
2	2½	3	3½	4	4½	2	20	30		44		49		54		59		64		69		74		79
2½	3	3½	4	4½	5	2½	58	70		---		75		83		91		1 00		1 10		1 20		1 30
2½	3	3½	4	4½	5	3	68	80		---		97		1 06		1 15		1 24		1 34		1 44		1 55
2¾	4	4½	5	5½	6	3½	1 00	1 25		---		---		1 38		1 50		1 62		1 74		1 86		2 00
3	4	4½	5	5½	6	4	1 25	1 60		---		---		1 75		1 92		2 10		2 30		2 50		2 70
3	4	4½	5	5½	6	4½	1 50	2 00		---		---		2 20		2 38		2 56		2 75		2 94		3 15
3½	4½	5	5½	6	6½	5	2 00	2 60		---		---		2 70		2 95		3 20		3 45		3 80		4 20
3½	4½	5	5½	6	6½	6	2 75	3 60		---		---		3 30		3 60		3 90		4 20		4 50		4 80
4	5	---	---	---	---	7	4 00	---		---		3 90		4 30		4 70		5 10		5 50		5 90		6 30
4	5	---	---	---	---	8	5 75	---		---		4 95		5 40		5 85		6 30		6 75		7 20		7 65
---	---	---	---	---	---	9	---	---		---		6 40		7 00		7 60		8 20		8 80		9 40		10 00
---	---	---	---	---	---	10	---	---		---		7 90		8 65		9 40		10 20		11 00		11 80		12 60

NIPPLES, R. & L.

Size.....	Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
R. & L. Short.....		10	10	12	15	18	24	30	40	1 00	1 25
Size.....	Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
R. & L. Long.....		12	14	16	20	24	35	46	60	1 30	1 60

CLOSE NIPPLES will always be sent if not otherwise ordered.

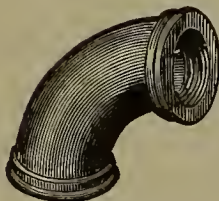
GALVANIZED.

Size.....	Inches	1/8	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
Close or Short.....		---	07	08	09	11	13	17	23	32	65	75	1 00	1 40	1 90	2 40	3 50
Long.....		---	09	11	13	16	19	24	31	40	85	1 10	1 40	1 90	2 40	3 00	4 40

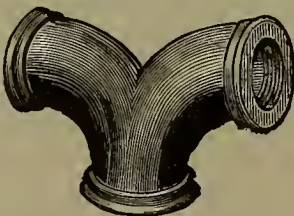
SPECIAL FITTINGS.

ELBOWS AND TEES.

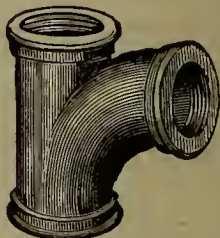
For Water Connections.--Cast Iron.



No. 1.



No. 2.



No. 3.

Size Inches	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8
Price, each. . . . No. 1	39	70	1 05	1 80	2 45	4 00	5 25	8 20	12 00	26 00
Price, each. Nos. 2 & 3	60	1 05	1 58	2 70	3 70	6 00	7 90	12 30	18 00	39 00

Steam Engineers have found that the Standard Fittings have been cut so short, that they are utterly unsuitable for Water fittings, and also for Steam, where the full pressure is required for Engine or Steam Pumps, &c.

The Radius (as will be seen) is very much increased over that of the ordinary fittings, thus reducing the friction to a minimum.

For Hydraulic and Steam Connections are invaluable.



Y Bend.



Return Bend Back Outlet.

Cast Iron.

Size Inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	7	8
Y Bend . . . Each	25	30	40	60	90	1 25	2 25	3 25	4 50	6 00	9 00	11 00	17 00	25 00
Return Bend Back Outlet .		30	40	60	90	1 25								

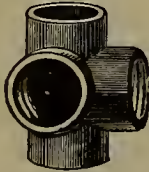


45° ELBOWS.

Cast Iron.

Size.....Inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$
Price.....Each	10	10	15	20	26	35	50	1 30	1 60	1 90

Size.....Inches	4	$4\frac{1}{2}$	5	6	7	8	9	10
Price.....Each	2 50	3 50	4 50	5 50	9 00	12 00		22 00



Four Way Tee.

Malleable Iron.

Size. In's	3/4	1	1 1/4	Size. In's	3/8	1/2	3/4	1	1 1/4
Price. E'h	30	35	45	Price. E'h	8	9	14	24	32



Side Outlet Elbow.

STEAM AND GAS FITTINGS FOR WROUGHT IRON PIPE.



Cast Iron.



Malleable Iron.

ELBOWS.

Size.....	Inches.	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	6	7	8	9	10	12
Cast Iron, R. H.....	Each		5	5	6	9	13	18	24	32	64	90	120	160	200	250	350	7 00	10 00	13 00	17 00	30 00
Cast Iron, R. and L.....	Each		6	6	8	11	16	23	30	40												
Cast Iron, Reducing, R. H.....	Each				8	11	16	23	30	40	80	121	150	200	250	300	420	7 00	10 00	13 00	17 00	30 00
Malleable Iron, R. H.....	Each	4	4	5	6	9	16	21	32	48	72	140	200	280								
Malleable Iron, R. and L.....	Each		5	6	8	12	20	27	40	60												
Malleable Iron, Reducing, R. H.....	Each		5	6	8	12	20	27	40	60	90	175	250	350								
Malleable Iron, Galvanized, R. H. Each			5	7	9	14	23	31	45	70	105	195	265	400								
Mall. Iron, Reducing, Galv. R. H. Each			6	9	11	18	29	39	57	88	132	245	356	20								

Right and Left Elbows, not specified above, made to order and charged extra.



Cast Iron.

TEES.



Malleable Iron.

Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8	9	10	12
Cast Iron.....R. H. Each		7	7	9	13	19	27	36	48	96	135	180	240	300	375	525	1050	1500	2000	2500	4500
Cast Iron, Reducing....R. H. Each				12	16	24	35	45	60	120	168	225	300	375	450	630	1050	1500	2000	2500	4500
Malleable Iron.....R. H. Each	7	7	8	9	13	19	27	38	55	100	160	240	320								
Mall. Iron Reducing....R. H. Each		9	10	12	16	24	35	48	69	125	200	300	400								
Malleable Iron....Galv. R. H. Each			9	10	17	27	37	55	80	138	220	320	450								
Mall. Iron Reduc'g. Galv. R.H. Each			12	13	22	34	46	70	100	173	275	400	565								



Cast Iron.

CROSSES.



Malleable Iron.

Size.....Inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8	9	10	12
Cast Iron.....R. H. Each				12	18	26	36	48	64	128	180	240	320	400	500	700	1400	2000	2600	3400	6000
Cast Iron, Reducing.....R. H. Each				16	22	32	46	60	80	160	243	300	400	500	640	840	1400	2000	2600	3400	6000
Malleable Iron.....R. H. Each	8	10	12	15	18	26	36	52	82	175	270	353	75								
Malleable Iron, Reducing..R. H. Each		13	15	23	32	45	65	103	193	384	606	704									

Parties desiring R. & L. Tees or Crosses, will please state when ordering which hole is to be tapped left hand. Such goods can always be furnished to order.

STEAM AND GAS FITTINGS FOR WROUGHT IRON PIPE.



PLUGS.

Size	Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price	Each	2	2	3	4	5	7	10	15	22	40
Countersunk	Each				7	9	11	15	22		
Tapped for Air Cock	Each				12	15	20				
Galvanized	Each	4	4	5	7	8	12	20	30	44	85
Size	Inches	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	9	10	12
Price	Each	55	75	1 00	1 30	1 75	3 25	5 00	6 00	7 00	10 00
Countersunk	Each										
Tapped for Air Cock	Each										
Galvanized	Each	1 15	1 50	2 00	3 00	4 00					



CAPS.

Size	Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Malleable Iron	Each	3	4	5	8	12	15	22	30	45	70	80	1 15
Malleable Iron, Galvanized	Each	4	5	7	11	15	20	30	40	60	85	1 10	1 55
Size	Inches	$4\frac{1}{2}$	5	6	7	8	9	10	12				
Cast Iron	Each	1 45	1 75	2 50	3 75	5 00	6 00	7 50	11 00				



LOCKNUTS.

Size	Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Cast Iron	Each									30	50
Malleable Iron	Each	2	3	4	5	7	9	11	18		
Malleable Iron, Galvanized	Each	3	4	5	7	9	11	15	25		
Wrought Iron, Faced Plain	Each	8	9	10	12	15	20	25	30	35	45
Size	Inches	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6					
Cast Iron	Each	60	80	1 00	1 20	2 00					

STEAM AND GAS FITTINGS FOR WROUGHT IRON PIPE.



REDUCERS.

Size	Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Cast Iron.....	Each									70	1 00	1 50	1 75
Malleable Iron.....	Each	3	3	5	10	16	20	26	45	70	1 00	1 50	1 75
Malleable Iron, Galvanized.....	Each		4	6	13	22	26	36	58	84	1 30	2 00	2 30
Size	Inches	$4\frac{1}{2}$	5	6	7	8							
Cast Iron.....	Each	2 25	3 00	4 25	8 00	10 00							



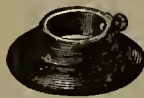
BUSHINGS.

Size.....	Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Cast Iron reducing more than 1 size.....	Each			5	6	7	9	12	18	28	40	55	75
Malleable Iron reducing 1 size only.....	Each		4	5	6	7	9	12	18	28			
Malleable Iron, galvanized.....	Each		5	6	9	12	17	25	35	45			
Cast Iron, faced plain.....	Each				11	13	16	19	26				
Size.....	Inches	$4\frac{1}{2}$	5	6	7	8	9	10	12				
Cast Iron, reducing more than 1 size.....	Each	1 00	1 30	1 75	3 25	5 00	6 00	7 00	10 00				



EXPANSION PIPE HANGERS,
OR RING HOOKS.

Size.....	Inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price	Each	22	25	30	38	44	55	65



CEILING PLATES.
For Wrought Iron Pipe.

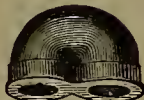
Size.....	Inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price	Each	16	18	20	25	30



FLOOR PLATES.

Size.....		$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price.....	Each	6	8	10	15	18	23

STEAM AND GAS FITTINGS FOR WROUGHT IRON PIPE



Close Pattern.

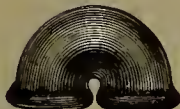
RETURN BENDS.

Cast Iron.

Size.....Inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4
Close Pattern, dist. bet. Centres....Inches	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$3\frac{1}{4}$	$3\frac{3}{4}$	$4\frac{1}{2}$	11
Close Pattern, R. H. Straight.....Each	16	18	32	50	75	1 60	2 70	6 00
Close Pattern, R. and L., Straight...Each	20	23	40	62	95			
Close Pat. R. and L. <small>with pitch made to order.</small>Each	20	23						
Open Pattern, dist. bet. Centres....Inches	$1\frac{7}{8}$	$2\frac{1}{4}$	3	$3\frac{1}{2}$	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$	
Open Pattern, R. H., Straight.....Each	20	26	44	64	1 00	1 75	2 50	
Open Pattern, R. & L., Straight.....Each	25	32	55	80	1 25			

In ordering Close Pattern Return Bends for Coils, always state the length of tubes to be used in the Coils, so that the spread of the tubes will be allowed for.

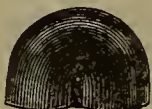
One inch Return Bends, suitable for Coils from 3 to 8 feet long, and $\frac{3}{4}$ inch Return Bends, suitable for Coils from 3 to $4\frac{1}{2}$ feet long, are kept in stock.



Open Pattern.

RETURN BENDS.

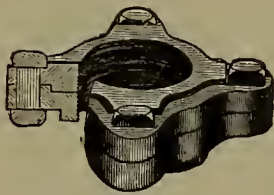
Malleable Iron.



Close Pattern.

Size.....Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Open Pattern, distance between Centres....Inches	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{7}{8}$	$2\frac{1}{4}$	$2\frac{1}{2}$	3
Open Pattern, Right Hand, Straight.....Each	13	20	26	43	63	1 00
Open Pattern, Right and Left, Straight.....Each	16	25	33	54	80	1 25
Close Pattern, distance between Centres....Inches	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{3}{16}$	$2\frac{5}{8}$
Close Pattern, Right Hand, Straight.....Each	13	20	26	43	63	1 00
Close Pattern, Right and Left, Straight.....Each	16	25	33	54	80	1 25
Return Bends, Galvanized.....Each	17	25	35	55	85	1 30

STEAM AND GAS FITTINGS FOR WROUGHT IRON PIPE.



IMPROVED FLANGE UNIONS.

Cast Iron.

Size.....Inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Diameter of Flange.....	$3\frac{1}{4}$	$3\frac{1}{2}$	$4\frac{1}{8}$	$4\frac{3}{8}$	$5\frac{1}{8}$	$5\frac{5}{8}$	$6\frac{5}{8}$	$6\frac{7}{8}$	$7\frac{1}{2}$
Price.....Each	60	70	80	1 00	1 20	1 50	1 90	2 30	2 80
Size.....Inches	$4\frac{1}{2}$	5	6	7	8	9	10	12	
Diameter of Flange.....	$8\frac{1}{4}$	$9\frac{1}{4}$	$10\frac{1}{4}$	12	13	14	16	18	
Price.....Each	3 50	5 00	6 50	8 00	10 00	12 00	14 00	20 00	

This Union is made with one flange recessed to receive a Jenkins' Patent Gas-ket. This Gasket is held in place by a projection on the other flange, as shown in cut. This improvement in the construction makes the blowing out of the gasket absolutely impossible.



UNIONS.

Malleable Iron.

Size.....Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Price.....Each	15	18	19	23	28	38	48	74	1 50	2 50	3 25	5 60
Galvanized....Each	20	24	28	35	42	55	70	1 12	2 10	3 40	4 50	8 25

Half inch and larger made with Lip Joint.

CAST IRON FITTINGS.
BRANCH TEES.

No. 1.—FOR BOX COILS.

LARGE PATTERN.

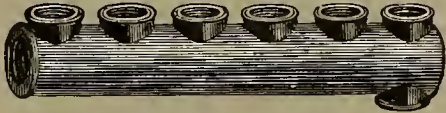


No. 3.—SMALL PATTERN.



No. 2.—FOR CIRCULATION.

LARGE PATTERN.



No. 4.—SMALL PATTERN.



Steam Fitters will find that No. 1 and 3 patterns are the most desirable to use, for the supply end of a Circulation as well as Box Coils, in consequence of the feed coming in on the side, thus scattering the steam and forcing the air uniformly out, more so than can be done by using a Tee that is fed on the end.

Number of Branches.	Nos. 1 and 2. Large Pattern. For Box and Circulation Coils. For 3-4 Inch Pipe. 2 inches Centre to Centre.			Nos. 1 and 2. Large Pattern. For Box and Circulation Coils. For 1 Inch Pipe. 2½ inches Centre to Centre.				Nos. 3 and 4. Small Pattern. For Box & Circulation Coils. For 1 Inch Pipe. 2½ inches Centre to Centre.	
	Inlets.			Inlets.				Inlets.	
	¾	1	1¼	1	1¼	1½	2	1	1¼
2	65	90	1 05	90	1 15	1 30	1 55	85	1 10
3	75	1 00	1 15	1 00	1 25	1 40	1 65	95	1 20
4	95	1 20	1 35	1 20	1 45	1 60	1 85	1 00	1 25
5	1 15	1 40	1 55	1 40	1 65	1 80	2 05	1 10	1 35
6	1 35	1 60	1 75	1 70	1 95	2 10	2 35	1 30	1 55
7	1 55	1 80	1 95	2 15	2 40	2 55	2 80	1 55	1 80
8	1 75	2 00	2 15	2 40	2 65	2 80	3 05	1 80	2 05
9	1 95	2 20	2 35	2 80	3 05	3 20	3 45	2 05	2 30
10	2 25	2 50	2 65	3 30	3 55	3 70	3 95		
11	2 60	2 85	3 00	4 20	4 45	4 60	4 85		
12	3 10	3 35	3 50	4 75	5 00	5 15	5 40		
13				5 50	5 75	5 90	6 15		
14				6 25	6 50	6 65	6 90		
15				7 00	7 25	7 40	7 65		
16				7 75	8 00	8 15	8 40		

Branch Tees not specified above will be made to order at an advance of 25 per cent.

NOTE.—Inlets and outlets same size as branches unless specially ordered.

Small Pattern for *Circulation* have inlet at one end and outlet on back.

Large Pattern for *Circulation* have inlet at one end and outlet on back.

Small Pattern for *Box Coils* are tapped left hand and have a back outlet only.

Large Pattern for *Box Coils* are tapped left hand and have a back outlet only.

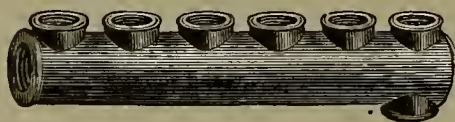
When Branch Tees are ordered left hand we take it for granted they are for Box Coils, and will so fill the order. If left hand are wanted for Circulation, *the order must distinctly state that fact.*

In all cases please state for what purpose the Branch Tees are required, Box Coils or Circulation.

CAST IRON FITTINGS.

BRANCH TEES.

No. 5.—FOR CIRCULATION.
LARGE PATTERN.



No. 7.—FOR CIRCULATION.
LARGE PATTERN.



No. 6.—FOR CIRCULATION.
LARGE PATTERN.



Number of Branches.	No. 5. Large Pattern. For Circulation Coils. For 1 1-4 Inch Pipe. 3 inches, Centre to Centre.				No. 6. Large Pattern. For Circulation Coils. For 1 1-2 Inch Pipe. 3½ Inches, Centre to Centre.				No. 7 Large Pattern. For Circulation Coils. For 2 Inch Pipe. 4½ inches, Centre to Centre.			
	INLETS.				INLETS.				INLETS.			
	1¼	1½	2	2½	1½	2	2½	3	2	2½	3	3½
2	1 25	1 50	1 65	1 90	2 30	2 55	2 70	3 05	3 10	3 35	3 50	3 85
3	1 55	1 80	1 95	2 20	3 00	3 25	3 40	3 75	4 20	4 45	4 60	4 95
4	1 90	2 15	2 30	2 55	3 75	4 00	4 15	4 50	5 30	5 55	5 70	6 05
5	2 30	2 55	2 70	2 95	4 50	4 75	4 90	5 25	6 40	6 65	6 80	7 15
6	2 80	3 05	3 20	3 45	3 30	5 55	5 70	6 05	7 55	7 80	7 95	8 30
7	3 30	3 55	3 70	3 95	6 20	6 45	6 60	6 95	9 10	9 35	9 50	9 85
8	3 80	4 05	4 20	4 45	6 80	7 05	7 20	7 55	10 10	10 35	10 50	10 85
9												
10	5 00	5 25	5 40	5 65	9 10	9 35	9 50	9 85	12 35	12 60	12 75	13 10

Branch Tees not specified above will be made to order at an Advance of 25 per cent.

NOTE—Inlets and outlets same size as branches, unless specially ordered.
Small Pattern for *Circulation* have inlet at one end and outlet on back.
Large Pattern for *Circulation* have inlet at one end and outlet on back.
Small Pattern for *Box Coils* are tapped left hand, and have a back outlet only.
Large Pattern for *Box Coils* are tapped left hand, and have a back outlet only.

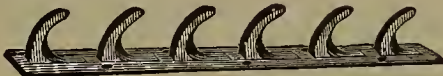
When Branch Tees are ordered left hand, we take it for granted they are for Box Coils, and will so fill the order. If left hand are wanted for Circulation, *the order must distinctly state that fact.*

In all cases, please state for what purpose the Branch Tees are required, Box Coils or Circulation.

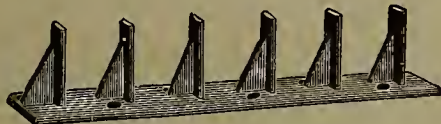
CAST IRON FITTINGS.



HOOK PLATES.



No. of Hooks.....	1	2	3	4	5	6
For $\frac{3}{4}$ inch Pipe, 2 in. between Centres.....Price	6	8	11	15	19	22
For 1 inch Pipe, $2\frac{1}{2}$ in. between Centres.....Price	7	14	18	20	26	32
For $1\frac{1}{4}$ inch Pipe, 3 in. between Centres.....Price	8	16	20	25	32	40
For $1\frac{1}{2}$ inch Pipe, $3\frac{1}{2}$ in. between Centres.....Price	12	24	30	36	45	60
For 2 inch Pipe, $4\frac{1}{2}$ in. between Centres.....Price	18	36	49	56	60	75



HOOK PLATES.—Expansion.

No. of Hooks.....	1	2	3	4	5	6
For $\frac{3}{4}$ inch Pipe, 2 in. between Centres.....Price	8	11	14	16	20	24
For 1 inch Pipe, $2\frac{1}{2}$ in. between Centres.....Price	10	19	22	25	35	40
For $1\frac{1}{4}$ inch Pipe, 3 in. between Centres.....Price	12	20	25	32	42	50



BEAM HOOKS.—Long Shank.

Size.....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price..... Each	11	12	16	18	20	28	56	75

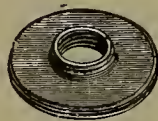


LAUNDRY COIL STANDS.

With Movable Hook Plates.

Price each, for Four Pipes High.....	\$2 00
“ “ “ Six “ “	2 75
“ “ “ Eight “ “	3 50
“ “ “ Ten “ “	4 25

CAST IRON FITTINGS.



FLANGES.

Size of Pipe. In..	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8	9	10	12
Diameter 3 Inches	*16	16																	
" 3 1/2 "	19	*19	*20																
" 4 "	22	22	23	*24	*27														
" 4 1/2 "	25	25	27	28	31	* 35													
" 5 "	28	28	31	34	37	40													
" 5 1/2 "	31	31	35	40	43	45	49												
" 6 "	34	34	40	46	49	51	55	60											
" 6 1/2 "		37	45	52	55	57	61	66	69										
" 7 "			51	58	62	64	68	75	78	81									
" 7 1/2 "			57	66	70	72	76	84	89	93									
" 8 "				74	78	82	86	94	1 01	1 06	1 12								
" 8 1/2 "				82	86	92	96	1 05	1 13	1 19	1 30								
" 9 "					96	1 02	1 07	1 20	1 27	1 32	1 48	1 68	1 79						
" 9 1/2 "						1 12	1 20	1 35	1 42	1 46	1 66	1 83	1 94	2 38					
" 10 "							1 34	1 50	1 57	1 62	1 84	2 03	2 14	2 58					
" 10 1/2 "							1 49	1 67	1 74	1 80	2 04	2 23	2 34	2 78					
" 11 "							1 65	1 85	1 95	2 01	2 24	2 45	2 54	2 98					
" 11 1/2 "								2 05	2 17	2 24	2 44	2 67	2 74	3 18					
" 12 "								2 30	2 40	2 48	2 64	2 89	2 94	3 38	4 06	4 33			
" 13 "									2 65	2 74	2 88	3 13	3 19	3 63	4 41	4 83			
" 14 "											3 13	3 38	3 49	3 93	4 81	5 33	5 93	6 50	
" 15 "														4 43	5 31	5 93	6 68	7 10	
" 16 "															5 81	6 58	7 18	7 75	9 87
" 17 "																6 41	7 23	7 93	10 62
" 18 "																			11 62
" 19 "																			12 87
" 20 "																			14 37

Those marked * are drilled for screw.

Circle Flanges made to order at double above prices.

BRASS TUBING.**PLAIN BRASS TUBING (Light).**

Outside Diameter, inches....	$\frac{1}{8}$	$\frac{5}{16}$	$\frac{1}{4}$	$\frac{3}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Price per pound.....	2 00	1 40	90	55	55	55	55	55	55	55	55	55

SEAMLESS DRAWN BRASS TUBING (Heavy).**IRON PIPE SIZE.**

Size, inches.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Outside Diameter, inches.....	$\frac{7}{16}$	$\frac{9}{16}$	$\frac{11}{16}$	$\frac{13}{16}$	$1\frac{1}{16}$	$1\frac{5}{16}$	$1\frac{9}{16}$	$1\frac{13}{16}$	$2\frac{5}{16}$	$2\frac{13}{16}$	$3\frac{1}{2}$
Length, feet, about.....	12	12	12	12	12	12	12	12	12	12	12
Weight per foot, lbs., about.....	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{8}{10}$	$1\frac{1}{4}$	$1\frac{7}{10}$	$2\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{1}{2}$	$4\frac{3}{4}$	$8\frac{1}{2}$
Price per pound.....	80	60	55	50	45	45	45	45	45	45	45

BRASS FITTINGS.**IRON PIPE SIZE.**

Size, inches.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Elbows, each.....	.14	.14	.22	.25	.50	.70	1.00	1.50	2.20
Tees, each.....	.20	.20	.28	.32	.62	.80	1.20	1.60	2.20
Crosses, each.....	....	.25	.35	.40	.75	1.00	1.50	2.00	2.75
Plugs, each.....	.6	.10	.15	.20	.30	.40	.50	.75	1.20
Caps, each.....	.6	.10	.15	.20	.30	.40	.50	.75	1.20
Lock-Nuts, each.....	....	.10	.12	.15	.20	.25	.35	.50	.75
Reducers, each.....	....	....	.25	.30	.45	.60	.80	1.00	1.25
Bushings, to reduce one size, each.....	....	.5	.7	.10	.20	.25	.30	.55	.70
Bushings, to reduce two or more sizes, each, ....	....	.7	.10	.15	.30	.37	.45	.82	1.05
Couplings, each.....	.20	.20	.25	.30	.45	.60	.80	1.00	1.25
Return Bends, each.....	....	....	....	.50	.80	1.00	1.50	2.25	3.00
Unions, each.....	.35	.40	.50	.70	.90	1.35	1.80	2.25	3.75
Unions, Ground Joints, each.....	....	.60	.75	1.05	1.35	2.00	2.70	3.40	5.00
Nipples, four inches long and under, each..	.25	.30	.35	.45	.60	.75	1.00	1.25	1.50

Brass Fittings for hydraulic purposes made to order.



Fig. 21.

IRON GLOBE AND ANGLE VALVES.

Brass Mounted.



Fig. 21½.

Size, inches	2	2½	3
Price, Screw Ends, each.....	4.50	7.50	10.50
Price, Flange Ends, each.....	5.75	9.00	12.50
Diameter of Flange, inches	6¾	6⅞	8
Length face to face of Flange, inches.....	5⅞	6¾	7½



Fig. 22.

IRON GLOBE AND ANGLE VALVES.

With Yoke.



Fig. 23.

Size, inches.	2	2½	3	3½	4	4½	5	6	7	8	10	12
Brass Stem Screwed..	7.50	10.00	14.75	16.00	20.00	26.00	32.00	44.00	59.00	75.00	.....	.....
Brass Stem Flanged..	8.75	11.50	16.75	18.50	23.00	30.00	36.00	49.00	64.00	81.00	138.00	230.00
Diam. of Flange, inch.	6½	7	8	9	10	9¾	11	12	14	14	16	20
Length face to face of Flange.	6¾	6⅞	8	9½	10¼	12½	11¾	13¾	17	16½	21	26



Fig. 24.

IRON CROSS VALVES.



Fig. 25.

Size, inches.....	2	2½	3	3½	4	4½	5	6	7	8
Price, Screwed Ends, each.....	6.00	10.00	14.00	.....	.....	.....	.....	.....	.....	.....
Price, Flanged Ends, each.....	7.75	12.25	17.00	.....	.....	.....	.....	.....	.....	.....
Price, Screwed Ends, Yoke, each.	.....	.....	.....	21.00	26.00	33.00	40.00	54.00	70.00	87.00
Price, Flanged Ends, Yoke, each.	.....	.....	.....	24.75	30.50	38.00	46.00	61.50	77.00	99.00



Fig. 26.

IRON CHECK VALVES.
Horizontal, Angle and Vertical.

Size, inches.....	2	2½	3	3½	4	4½	5	6	7	8	10	12
Price, Screwed.....	3.75	6.25	8.75	11.50	15.00	19.00	24.00	33.00	49.00	65.00	... ..	.....
Price, Flanged	5.00	7.75	10 75	14.00	18.00	23.00	28 00	38.00	54.00	71.00	100.00	190.00



Fig. 27.

IRON SAFETY VALVES.

Size, inches.....	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8
Price, Screwed....	2.75	3.75	4.75	6.50	12.00	15.00	20.00	25.00	30.00	36.00	48.00	96.00	145.00
Price, Flanged.....	.....	.....	.....	8.25	14.25	18.00	23.75	29.50	35.50	42.00	55.00	104.00	154.00



Fig 28.

BACK PRESSURE VALVES.

Size, Inches.....	2	2½	3	3½	4	5	6	8
Price, Screwed Ends, each.....	9.00	10.50	13.50	15.00	18.00	30.00	40.00	66.00
Price, Flanged Ends, each.....	.....	.....	15.50	17.50	21.00	34.00	44.00	72.00



Fig. 29.

FOOT VALVES, WITH STRAINER.

Size, inches.....	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8
Price, each.....	1.30	1.75	2.50	3.25	4.00	5.00	6.50	8.00	10.00	12.00	17.00	23.00	30.00



Fig. 30.

IRON COCKS.

Size inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Price, Iron Plug, each.....	.50	.60	.70	.90	1.35	1.90	2.30	4.25	6.25	10.00	13.00	28.00	45.00
Price, Brass Plug, each.....	.80	.90	1.15	1.40	2.25	3.00	4.50	8.00	12.00	20.00	25.00	.....	.....



Fig. 31.

IRON THREE WAY COCKS.

Size, inches.....	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Price, Iron Plug, each.....	.80	1.00	1.50	2.25	2.90	5.00	7.25	12.00	16.00
Price, Brass Plug, each.....	1.35	1.50	2.40	3.35	5.10	8.75	13.00	22.00	28.00



Fig. 32.

STRAIGHT WAY STOP VALVES.

Steam Metal.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, Screwed, each.....	1.75	2.25	2.75	4.25	5.75	8.50	15.00	21.00
Size, inches.....				2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Price, Flanged, each.....				16.00	24.00	32.00	50.00	75.00



Fig. 33.

STRAIGHT WAY STOP VALVES.

Iron Body, Brass Mounted.

Size, inches.....	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8
Price, Screwed, each.....	8.00	12.00	16.00	20.00	22.00	32.00	38.00	52.00
Price, Flanged, each.....	9.25	13.50	18.00	22.50	25.00	36.00	43.00	60.00



Fig. 34.

STRAIGHT WAY STOP VALVES.

Iron Body, Brass Mounted, Hub Ends.

Size, inches.....	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8
Price, each.....	9.25	13.50	18.00	22.50	25.00	36.00	43.00	60.00



GLOBE AND ANGLE VALVES.

Brass.

Fig. 2.

Fig. 3.

Size, inches.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, each.....	.60	.60	.75	.95	1.30	1.70	2.60	3.60	5.60	11.25	16.00
Monogram, each....	.80	.80	.95	1.25	1.80	2.50	3.75	5.25	7.75	14.00	19.00



CROSS VALVES.

Brass.

Fig. 4.

Size, Inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, each.....	1.00	1.50	2.00	2.50	3.50	5.00	8.00	16.00	24.00



CHECK VALVES—Brass.

Horizontal, Angle and Vertical.



Fig. 5.

Fig. 6.

Size, inches.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, each.....	.50	.50	.55	.80	1.10	1.40	2.25	3.10	4.90	10.00	14.00
Monogram, each.....	.65	.65	.70	1.00	1.50	1.85	3.25	4.50	6.50	12.50	17.00



SAFETY VALVES.

Brass.

Fig. 7.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, each.....	1.60	1.80	2.25	2.80	3.80	5.50	7.00	11.00



HOSE VALVES.

Brass.

Fig. 8.

Size, inches.....	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Price, each.....	3.50	4.50	6.50	9.00



Fig. 9.

BUTTERFLY VALVES.

Brass and Iron.

Size, inches.....	1	1¼	1½	2	2½	3	3½	4
Price, Brass.....	3.50	4.50	5.50	8.00	11.00	16.00	.....	.....
Price, Iron.....	.....	.....	.....	.....	8.00	12.00	16.00	20.00



Fig. 10.

VACUUM VALVE.

Steam Metal.

Size.....	¼	¾	½	¾
Each.....	.75	1.00	1.25	1.75



Fig. 11.

RADIATOR VALVES.

Patent Wood Handle.

Size.....	½	¾	1	1¼	1½	2
Rough Body, Brass, each.....	1.25	1.60	2.00	3.25	4.50	6.50
Rough Body, Plated, each.....	1.55	1.95	2.40	3.70	5.00	7.25

Tapped Left Hand, Female End ; Right Hand, Male End.



Fig. 12.

Size.....	½	¾	1	1¼	1½	2
Rough Body, Brass, each.....	1.25	1.60	2.00	3.25	4.50	6.50
Rough Body, Plated, each.....	1.55	1.95	2.40	3.70	5.00	7.25

Tapped both ends Right Hand.



Fig. 13.

NIPPLE.

With Right and Left Thread for Radiator Valves.

Size, inches.....	½	¾	1	1¼	1½	2
Price, per doz.....	4.00	4.50	5.50	8.50	12.00	16.00



Fig. 14.

STEAM COCKS.—Brass.

Flat or Square Heads.

Size, inches.....	⅜	¼	¾	½	¾	1	1¼	1½	2	2½	3
Price, each.....	.65	.65	.75	1.05	1.45	2.00	3.20	4.40	6.50	13.75	20.00
Monogram, each.....	...	.75	.85	1.15	1.65	2.30	3.60	5.00	7.25	15.25	22.00
Price, with Check and Waste.....	.....	.....	.....	1.15	1.60	2.20	3.45	4.70	6.90	14.25	20.75
Price, Male and Female.....	.....	.75	.85	1.15	1.65	2.30	3.60	5.00	7.25	.....	...



Fig. 15.

THREE WAY COCKS.

Brass.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, each.....	1.80	2.50	3.40	4.70	6.00	9.00	17.00	24.00

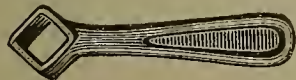


Fig. 16.

STEAM COCK WRENCHES.

Malleable Iron.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Number.....	3	4	5	6	7	8	9	10
Price, each, net.....	.04	.06	.08	.10	.12	.15	.25	.50



Fig. 17.

GAS COCK WRENCHES.

Cast Iron.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, each, net.....	.03	.04	.05	.07	.09	.12

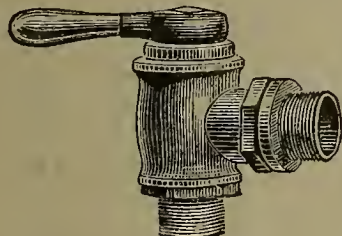


Fig. 18.

BRASS LARD TANK COCKS.

For Iron Pipe.

Size of Opening, inches.....	$1\frac{1}{2}$	2
Price, for Iron Pipe, each.....	6.50	8.00



Fig. 19.

EXPANSION JOINTS.

Brass and Iron.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Price, all Brass, each.....	1.50	2.00	2.75	4.00	5.50	8.00	.....	.....	.....	.....	.....	.....
Price, Iron Body with Brass Sleeve, each.....	.....	.....	.....	.....	.....	5.00	7.00	10.00	13.00	30.00	40.00	.....
Traverse, inches.....	2	2	$2\frac{1}{4}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{4}$	5	5	.....



Fig. 20.

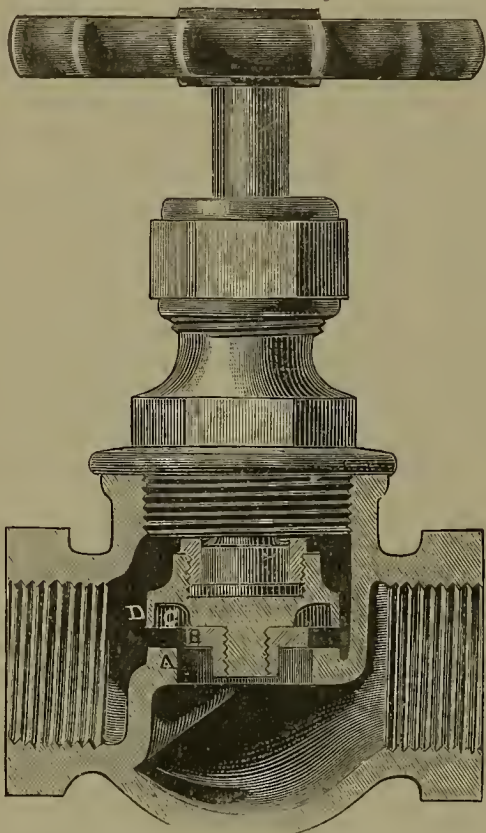
SWING JOINTS.

For Steam Pipe.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, each.....	1.25	1.75	2.50	4.00	5.00	7.00	12.00

EXTRA HEAVY GLOBE AND ANGLE VALVES—BRASS.

With Jenkins' Patent Disc.

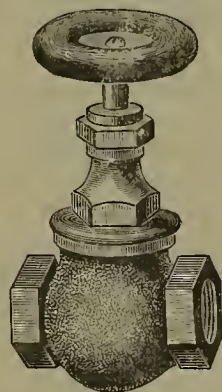


The great annoyance caused by leaky Valves has induced many inventors to experiment with many kinds of changeable and yielding compositions, which, when used in the form of a washer in connection with valve seats, would obviate this annoyance, but the only one that has met with success is the "Jenkins."

Various forms of Valves using Jenkins' Patent Composition Disc have been in extensive use in the East for years, and give very good satisfaction.

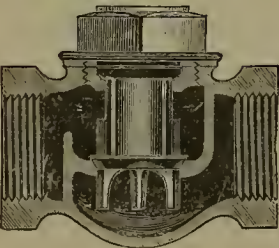
The patent consists of combining with the use of the above named composition a raised seat, *A*. The composition, *C*, being confined within walls, *D*, and the raised seat fitting the same, we claim that the composition is thus protected from any crushing tendency, and will last much longer than any of the Valves of this class now before the public.

Size, inches.	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, each	1.90	2.70	3.50	4.90	6.50	10.25



ROSEWOOD WHEEL.

Size, inches.	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Nickel Plated	2.25	3.20	4.00	5.60	7.40	11.50
Price, not Plated	2.10	2.95	3.75	5.30	7.00	11.00



THE "CRANE" PATENT CHECK VALVE—BRASS.

Horizontal. Extra Heavy.

The "Crane" Patent Valve has a much larger seat, a larger area, and is so constructed that the back pressure comes on the top of Valve, thus preventing the side wear of the seat and insuring prompt closing; overcoming all the difficulties in the ordinary Valve.

Size, inches.	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, each	2.70	3.50	4.90	6.50	10.25



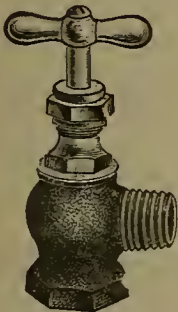
EXTRA HEAVY FULL OPENING RADIATOR VALVES.

With Jenkins' Patent Disc.

ROSEWOOD WHEEL.

Size, inches..	$\frac{1}{2} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{3}{4}$	1 x 1	$1\frac{1}{4} \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1\frac{1}{2}$
Nickel Plated, price.....	2.25	3.20	4.00	5.60	7.40
Not Plated, price.....	2.10	2.95	3.75	5.30	7.00
Size, inches.....	$\frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4} \times 1$	1 x $1\frac{1}{4}$	$1\frac{1}{4} \times 1\frac{1}{2}$	.....
Nickel Plated, price.....	2.45	3.40	4.30	6.00	.....
Not Plated, price.....	2.30	3.15	4.05	5.70	.....

TEE HANDLE.



Size, inches.....	$\frac{1}{2} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{3}{4}$	1 x 1	$1\frac{1}{4} \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1\frac{1}{2}$
Nickel Plated, price..	2.15	3.10	3.90	5.50	7.30
Not Plated, price....	2.00	2.85	3.65	5.20	6.90
Size, inches.....	$\frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4} \times 1$	1 x $1\frac{1}{4}$	$1\frac{1}{4} \times 1\frac{1}{2}$	.....
Nickel Plated, price..	2.30	3.30	4.20	5.90	.....
Not Plated, price.....	2.15	3.05	3.95	5.60	.....

NOTE—Valves with inlet and outlet same size will always be sent if not otherwise ordered.

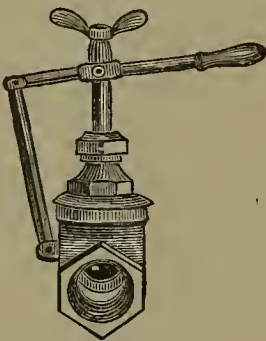
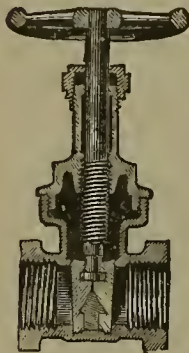
Where the inlet and outlet differ in size, the outlet is the larger. All Radiator Valves are tapped left hand in female end, which is the lower part of Valve.

EXTRA JENKINS' DISCS.

For Extra Heavy Globe, Angle and Radiator Valves.

Size, inches....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price each, net.....	9	10	12	18	25	36

PEET'S PATENT DOUBLE-DISC GATE VALVES.

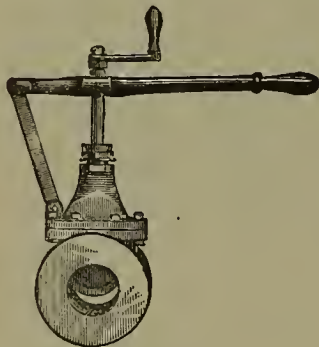


Brass.

Size.....Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price.....Each	1 00	1 00	1 20	1 75	2 50	3 50	5 00	7 50	15 00	22 00
Price, Quick Opening, with Lever.....Each					4 00	5 00	7 00	10 00	19 00	25 00

QUICK OPENING PEET VALVES.

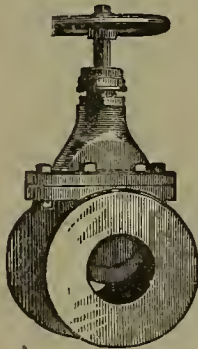
Iron Body Brass Mounted—Flanged or Screwed.
With Lever.



Size .....Inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	7	8	10
Price.....Each	16 00	20 00	22 00	25 00	30 00	35 00	45 00	55 00	70 00

IRON BODY PEET VALVES.

Brass Mounted -Best Steam Metal.



Size.....Inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	7	8	10	12
Diameter of Flanges..	7	7	8	9	10	11	13	14	16	18
Face to Face of Flanges.....	$7\frac{3}{4}$	8	$8\frac{3}{4}$	$9\frac{1}{2}$	$10\frac{1}{2}$	12	13	14	15	16
Flanged or Screwed, Price	12 00	15 00	18 00	20 00	25 00	30 00	43 00	53 00	69 00	94 00

NOTE.—When ordering Valves, be sure and state whether FLANGED or SCREWED.

IRON BODY WATER GATES.

Brass Mounted.



Size.....Inches	3	4	6	8	10	12
Price.....Each	15 00	20 00	30 00	50 00	65 00	90 00

STEAM WHISTLES.

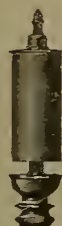


Fig. 35.



Fig. 36.

Size of Pipe, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$
Diameter of Bell, inches.....	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Without Valve (Fig. 35), each....	\$1.70	2.00	2.50	3.00	4.00
With Valve (Fig. 36), each.....	\$3.50	3.75	4.00	4.25	5.50

Size of Pipe, inches'.....	1	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	3
Diameter of Bell, inches.....	3	$3\frac{1}{2}$	4	5	6	8	10	12
Without Valve (Fig. 35), each	5.50	7.75	10.00	16.00	22.00	50.00	80.00	160.00
With Valve (Fig. 36), each...	7.00	9.50	12.00	19.00	25.00	65.00	125.00	250.00

WHISTLE VALVES.

Size of Pipe, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Rough, each.....	\$2.00	2.50	3.00	4.00	5.50	8.00	12.00	16.00
Finished, each.....	\$2.50	3.00	3.75	5.00	6.50	9.50	14.00	20.00

WATER GAUGES.

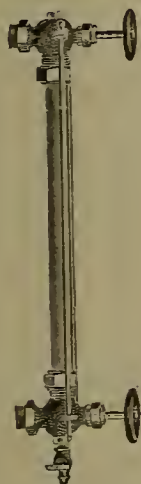


Fig. 37.



Fig. 38.

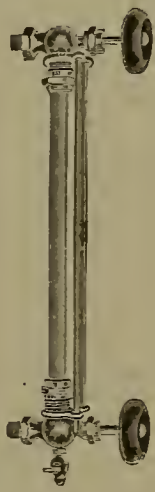


Fig. 39.

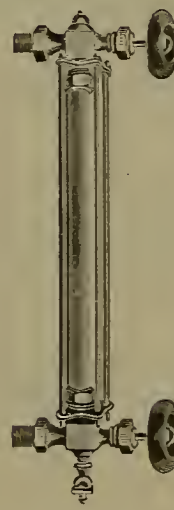


Fig. 40.

Fig. 37. Rough,	$\frac{1}{4}$ x 10	Glass,	$\frac{3}{8}$	Iron Pipe, each	.....	\$2 00
" 37. "	" x 12	"	$\frac{1}{2}$	" " "	.....	2 75
" 38. "	" x 12	"	$\frac{1}{2}$	" " "	.....	3 00
" 39. Finished,	" x 12	"	$\frac{1}{2}$	" " "	.....	4 00
" 40. "	" x 12	"	$\frac{1}{2}$	" " "	.....	5 50
" 40. "	" x 16	"	$\frac{3}{4}$	" " "	.....	9 00

SCOTCH GLASS TUBES,

FOR WATER GAUGES.

Length, inches...	10	11	12	13	14	15	16	17	18	19	20	22	24	30	36	48
$\frac{3}{4}$ inch diam., each.	.55	.55	.55	.65	.65	.65	.65	.70	.75	.80	.85	.95	1.05	1.50	2.00	3.00
$\frac{5}{8}$ inch diam., each.	.45	.45	.45	.45	.50	.55	.60	.65	.70	.70	.80					

Rubber Washers for same, 15 cents per dozen, net.

GAUGE COCKS.

COMPRESSION, WITH SOFT METAL SEAT.

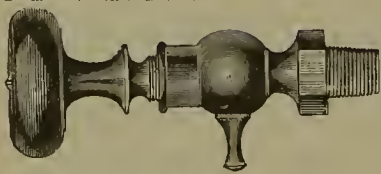


Fig. 41.

Diameter of Shank, inches.....	$\frac{5}{8}$	$\frac{3}{4}$	1
Will Chase, (Iron Pipe Size), inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$
Price, with Wood Handle, each.....	\$1.00	1.20	1.40

COMPRESSION, WITH STUFFING BOX. SOFT METAL SEAT.

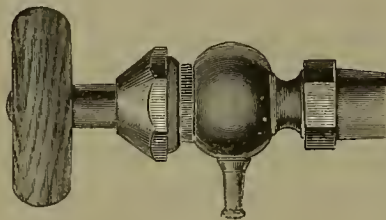


Fig. 42.

Diameter of Shank, inches.....	$\frac{3}{4}$	1
Will Chase, (Iron Pipe Size), inches.....	$\frac{1}{2}$	$\frac{3}{4}$
Price, with Wood Handle, each.....	1.35	1.60



Fig. 43

MISSISSIPPI GAUGE COCKS.

Diameter of Shank, inches.....	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Will Chase, (Iron Pipe Size), inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$
Price, each.....	.80	.90	1.20	1.50

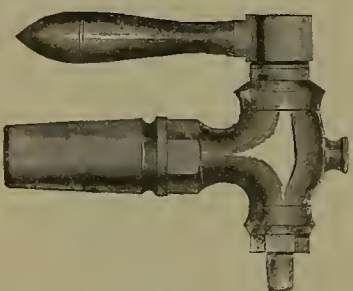


Fig. 44.

CYLINDER COCKS.

Diameter of Shank, inches..	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$1\frac{1}{8}$
Price, Lever Handle, each...	.50	.65	.80	1.00	1.35	2.00
Price, Tee Handle, each.....	.50	.60	.70	.90	1.10	



Fig. 45.

REGESTER GAUGE COCKS.

Diameter of Shank, inches.....	$\frac{3}{4}$	1
Will Chase, (Iron Pipe Size), inches.....	$\frac{1}{2}$	$\frac{3}{4}$
Price, each	2.25	2.25

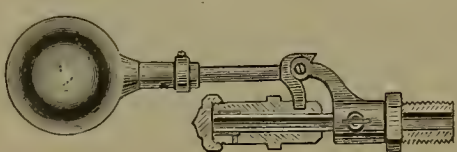


Fig. 46.

MONTGOMERY GAUGE COCKS.

Diameter of Shank, inches	$\frac{3}{4}$	1
Will Chase (Iron Pipe Size), inches	$\frac{1}{2}$	$\frac{3}{4}$
Price, each	2.25	2.25

COCKS FOR STEAM GAUGES.



Fig. 47.

Per dozen, $\frac{1}{4}$ inch, \$7.00.



Fig. 48.

Per dozen, $\frac{1}{4}$ inch, \$15.00.

CYLINDER COCKS.



Fig. 49.

Diam. of Opening, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Diam. Blank Shanks, in.	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{7}{8}$	2	2	2
Price, Rough, per doz...	14.00	19.00	26.00	34.00	42.00	60.00	80.00	100.00	150.00	200.00
Price, Finished, per doz.	16.00	21.00	29.00	38.00	47.00	68.00	90.00	115.00	170.00	225.00

STEAM BIBBS.



Fig. 50.

Diameter of Opening, inches...	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	3
Diameter of Blank Shanks, in.	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{7}{8}$	2	2	$2\frac{3}{8}$	$2\frac{7}{8}$	$3\frac{1}{8}$
Price, Rough, per doz.	12.00	15.00	18.00	21.00	28.00	44.00	72.00	114.00	130.00	175.00	266.00	344.00
Price, Finished, per doz.	14.00	17.00	21.00	25.00	33.00	52.00	84.00	128.00	150.00	200.00	300.00	400.00

COMPRESSION AIR VALVES.



Fig. 51.

Size.....	$\frac{1}{8}$	$\frac{1}{4}$
Finished, per dozen.....	4.25	4.25
Nickel Plated, per dozen.....	4.75	4.75



Fig. 52.

Size.....	$\frac{1}{8}$	$\frac{1}{4}$
Finished, per dozen.....	5.00	5.00
Nickel Plated, per dozen.....	5.50	5.50



Fig. 53.

Size.....	$\frac{1}{8}$	$\frac{1}{4}$
Finished, per dozen.....	2.50	2.50
Nickel Plated, per dozen.....	3.00	3.00

THE DAVIS PATENT AUTOMATIC AIR VALVE.
For Radiators and Coils.



Fig. 54.

Nos.....	1 and 2	3 and 4	5
Finished, per dozen.....	12.90	14.40	16.00
Plated, per dozen.....	14.40	16.00	18.00

This is the only reliable Automatic Air Valve in the market, and has been adopted by nearly all the leading Steam Fitters in the United States.

EVERY VALVE WARRANTED.

AIR COCKS.



Fig. 55.

Size	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$
Rough, per dozen.....	4.00	4.00	4.50
Finished, per dozen.....	4.50	4.50	5.00



Fig. 56.

Size.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Rough, per dozen.....	4.50	4.50	5.00	5.50
Finished, per dozen.....	5.00	5.00	5.50	6.00
Finished, Lever Handle, per dozen.....	8.00	8.00	8.50	.....



Fig. 57.

Size.....	$\frac{1}{8}$	$\frac{1}{4}$
Finished, per dozen.....	7.00	7.00



Fig. 58.

Size	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$
Finished, per dozen.....	5.50	5.50	6.50



Fig. 59.

Size.....	$\frac{1}{8}$	$\frac{1}{4}$
Finished, per dozen	8.00	8.00



Fig. 60.

Size.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$
Finished, per dozen.....	7.00	7.00	9.00



Fig. 61.

Size	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$
Finished, per dozen.....	7.50	7.50	9.50



Fig. 62.

Size.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$
Finished, per dozen.....	9.00	9.00	11.00



Fig. 63.

Size.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$
Finished, per dozen	9.50	9.50	11.50



Fig. 64.

PLAIN OIL CUPS.
With Brass Tubes.

Diameter of Body, inches	$\frac{3}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3
Diameter of Shank, inches.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$
Will Chase (Iron Pipe Size).....	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$
Price, each.....	.24	.28	.33	.38	.44	.56	.75	.95	1.20	1.60	2.10	3.25

GLASS OIL CUPS.



Fig. 65.

Diameter of Body, inches.....	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$
Diameter of Shank, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$1\frac{1}{8}$
Will Chase (Iron Pipe Size).....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$
Price, each.....	.90	1.15	1.30	1.60	2.00	2.50	3.00

OIL CUPS.

With Tee or Lever Handle Cock.



Fig. 66.

Diameter of Body, inches.....	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Diameter of Shank, inches.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{7}{8}$	$\frac{7}{8}$
Will Chase (Iron Pipe Size).....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$
Price, Tee Handle, each.....	.75	.90	1.15	1.35	1.75	2.25
Price, Lever Handle, each.....	.80	.95	1.25	1.50	2.00	2.50

LUBRICATORS—WOOD HANDLE.

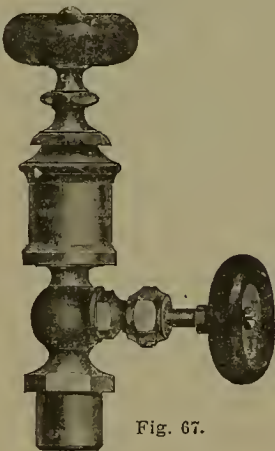


Fig. 67.

Diameter of Body, inches.....	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3
Diameter of Shank, inches.....	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$
Will Chase (Iron Pipe Size).....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$
Price, each	1.60	1.85	2.10	2.35	2.65	3.00	3.50	4.25
Price, with Air Cock, each	2.00	2.25	2.50	2.85	3.10	3.50	4.00	4.75

OIL GLOBES.

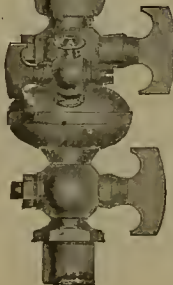
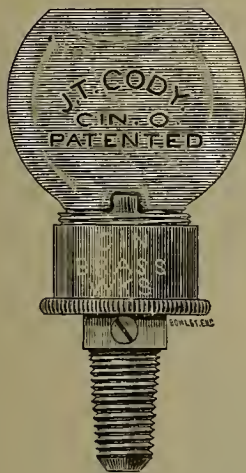


Fig. 68.

Diameter of Globe, inches	$1\frac{1}{2}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Diameter of Shank, inches.....	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$
Will Chase (Iron Pipe Size), inches...	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
Price, with Cocks, each.....	3.00	3.75	4.50	5.25	6.00	7.50	.....
Price, with Valves, each.....	.....	4.25	4.75	5.50	6.50	9.00	13.00

CODY'S PATENT

Air-Tight Shaft and Engine Oilers.



Shaft Oiler.




Engine Oiler.

ADVANTAGES OF USING CODY'S SHAFT OILERS.

They are all made in a first-class manner, of the best materials, and are warranted in every respect. They are as reliable in winter as in summer. Being perfectly air-tight, the oil will never gum in them, and is always free from dust and grit. They will feed only when the machinery is in motion. In case of breakage, a glass can easily be replaced at a small cost.

DIRECTIONS FOR USING CODY'S SHAFT OILERS.

Fill the Oiler full of oil; screw on the socket air-tight, and then screw the stem tightly into the oil-hole in bearing. When the cups need re-filling, unscrew the stem out of the hole; take the oiler apart, and proceed as before, See that the hole through stem is always clear of any obstruction before putting the oiler in its place.

 See that the Glass Globe is always tight in its socket.

TO REGULATE SHAFT AND ENGINE OILERS.

By turning the regulating screw a *quarter-turn backward* the supply of oil is entirely cut off.

The perspective view shows the screw in the proper position to give a moderate feed. The feed on all Cody Oilers is regulated ready for use.

PRICE OF SHAFT CUPS

No.	CAPACITY.	DIAMETER.	HEIGHT.	PRICE PER DOZEN.
1	1 oz.	1 $\frac{3}{4}$ in.	2 $\frac{5}{8}$ in.	\$6 00
2	1 $\frac{5}{8}$ oz.	2 in.	3 in.	6 50
3	2 $\frac{3}{4}$ oz.	2 $\frac{1}{2}$ in.	3 $\frac{1}{2}$ in.	7 00

Shanks are threaded $\frac{3}{8}$ inch on point, 16 threads to the inch.

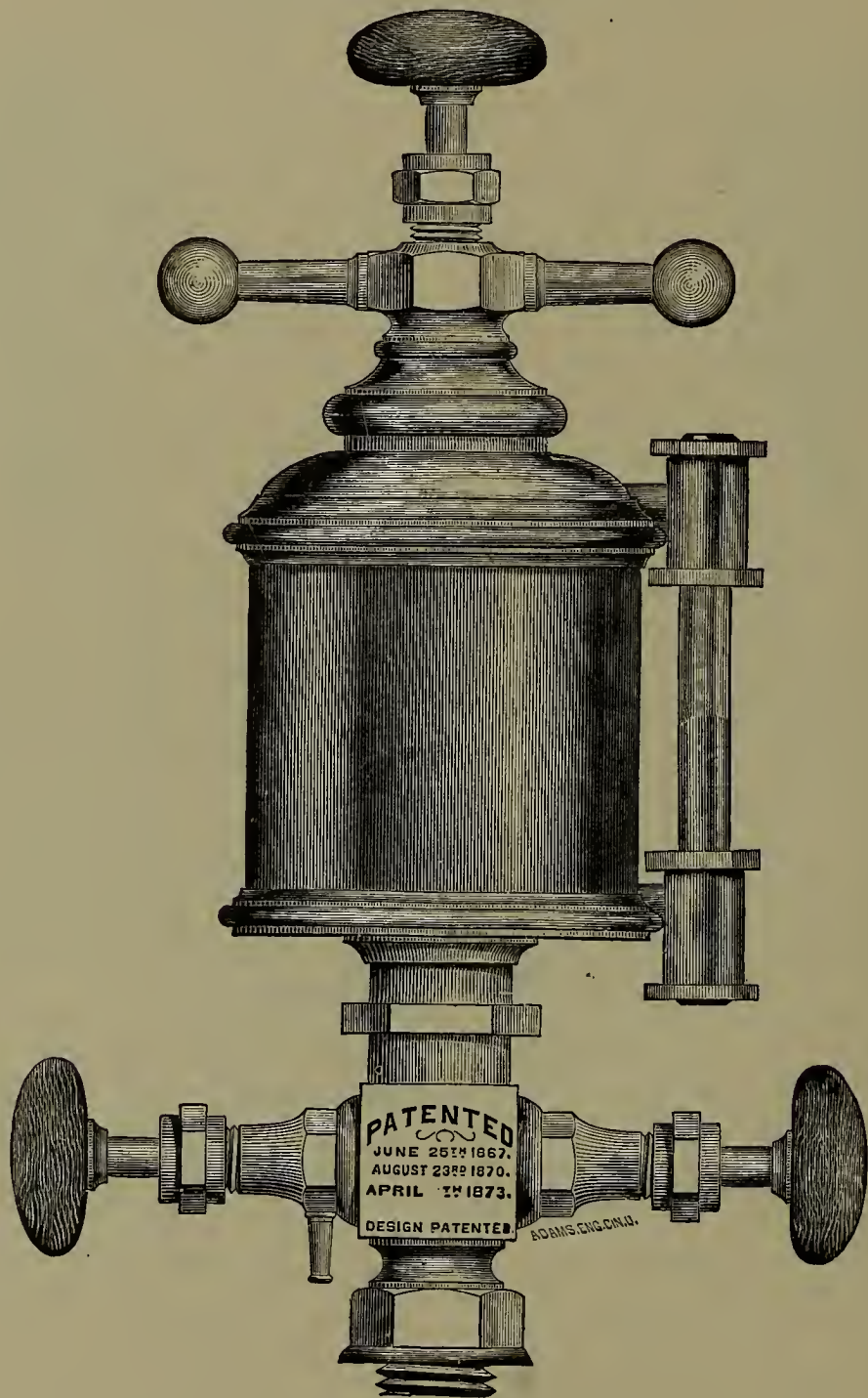
PRICE OF ENGINE CUPS,

No.	CAPACITY.	DIAMETER.	HEIGHT.	PRICE PER DOZEN.
7	$\frac{3}{4}$ oz.	1 $\frac{5}{8}$ in.	3 in.	\$ 8 40
8	1 $\frac{3}{8}$ oz.	2 in.	3 $\frac{3}{8}$ in.	10 50
9	2 $\frac{1}{2}$ oz.	2 $\frac{3}{8}$ in.	3 $\frac{3}{4}$ in.	12 60

Shanks $\frac{1}{2}$ inch diameter threaded $\frac{1}{4}$ inch Pipe. Extra Glasses each 10 cents net.

AUTOMATIC NEEDLE VALVE OIL FEEDERS.

With Glass Gauge (Cross Top).

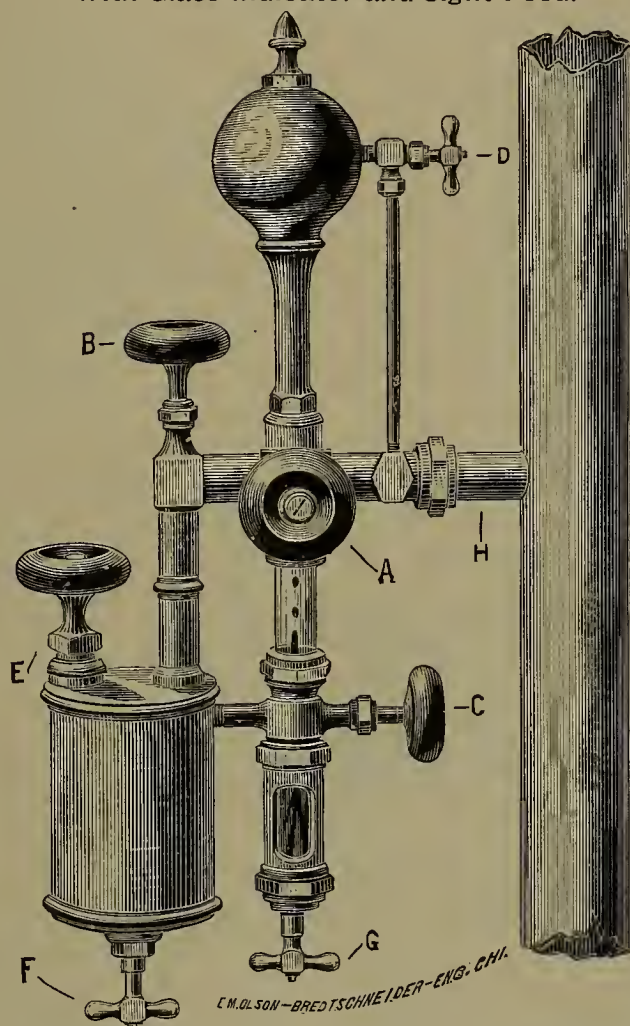


PRICE LIST

Diameter, inches.....	2½	3	3¾	4	5
Capacity.....	¾ pt.	1 pt.	1½ pt.	1 qt.	2 qt.
Price, each.....	11.30	14.50	19.00	28.00	44.00

When ordering, mention size of Cylinder. A card with directions for using the Oil Feeder is attached to every Cup.

IMPROVED CYLINDER LUBRICATOR.
MANUFACTURED UNDER THE GATES, SEIBERT, AND GRAHAM PATENTS.
 With Glass Indicator and Sight Feed.



Size, Half Pint, Pint, and Quart, in Plain Brass or Nickel-Plated.

Price, $\frac{1}{2}$ Pint.....\$29.00 | Price, Pint.....\$36.00 | Price, Quart.....\$42.00

Directions for Connecting and Operating Lubricator.

A—Shut-off valve; B—Water valve; C—Regulating valve; D—Overflow valve; E—Filling plug;
 F and G—Drain plugs; H—Union coupling.

First.—Attach union coupling H to steam pipe between throttle and boiler if convenient.

Second.—If not, then either on steam chest or pipe below throttle.

Third.—Connect Lubricator to union. When so connected see that valves B and C are closed, then open valve A, when condensation will take place and fill feed glass.

Fourth.—Remove filling plug E and fill reservoir with oil; replace filling plug, seeing that drain plugs F and G are tight.

Fifth.—Then open water valve B, waiting five minutes, then open oil regulating valve C and regulate the feed as may be required.

Sixth.—If slow feed is required open valve D to allow surplus condensation to pass back into steam pipe.

Seventh.—Caution must be used when Lubricator is connected on steam chest, or pipe below throttle, to close regulating valve C before shutting steam off to prevent feed glass from becoming foul.

Eighth.—To clean feed glass, close water valve B, open drain plug G, and blow steam direct through glass. Then close drain plug G and oil valve C, allowing condensation to take place as before. Then open water valve B then oil valve C and regulate as before.

Ninth.—The following is about the feed required for the size of engines given:

10 to 40 Horse Power.....	1 to 6 drops per minute
50 " 80 " " "	6 " 8 " " " "
100 " 150 " " "	8 " 12 " " " "
175 " 250 " " "	10 " 15 " " " "

OIL PUMPS.



Fig. 69.

	No. 1.	No. 2.
Fig. 69	8.50	....
Fig. 70	10.00	12.00



Fig. 70.

LEVER HANDLE OIL PUMPS.

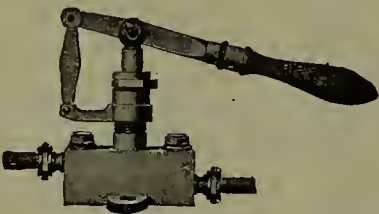


Fig. 71.

No. 1, each.....\$14.00 | No. 2, each.....\$16.00

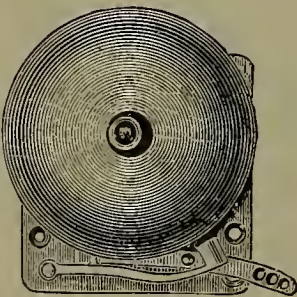


Fig. 72.

GONG BELLS.

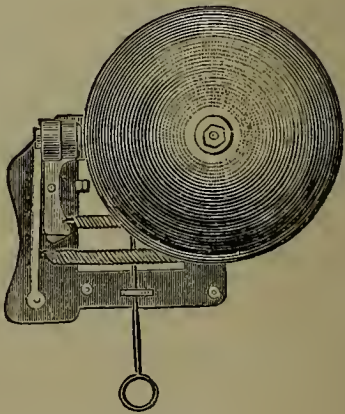


Fig. 73.

Diameter, inches.....	4	5	6	7	8	10	13	15
Fig. 72, price each	1.50	2.50	3.00	4.25	5.25	9.00	18.50	25.00
Fig. 73, price each .....	....	....	3.50	5.00	6.50	10.50	20.00	27.00

CROSBY IMPROVED PRESSURE GAUGE.



With Composition Case, O. G. Ring and Cock.

No 0, 10 inch dial.....	\$40 00	No. 3, 6 inch dial.....	\$19 00
" 1, 8 $\frac{1}{2}$ " ".....	30 00	" 4, 5 $\frac{1}{2}$ " ".....	16 00
" 2, 6 $\frac{3}{4}$ " ".....	22 00	" 5, 4 $\frac{1}{2}$ " ".....	14 00

With Iron Case, Brass O. G. Ring and Cock.

No. 1 $\frac{1}{2}$, 8 $\frac{1}{2}$ inch dial.....	\$22 00	No. 4 $\frac{1}{2}$, 5 $\frac{1}{2}$ inch dial.....	\$14 00
" 2 $\frac{1}{2}$, 6 $\frac{3}{4}$ " ".....	18 00	" 5 $\frac{1}{2}$, 4 $\frac{1}{2}$ " ".....	12 00
" 3 $\frac{1}{2}$, 6 " ".....	16 00	No Crosby Gauge less than 4 $\frac{1}{2}$ in. dial.	

Gauges with Deep Composition Cases, or Octagon Faced Rings, extra.

The Crosby Improved Gauge, at above prices, marked to any pressure not to exceed 500 pounds per square inch.

The maximum pressure required should be stated in ordering above Gauges.

BOURDON PRESSURE OR VACUUM GAUGE.



Gauge Syphon.
Each, 25c.



We also carry a high pressure Bourdon Gauge, for a certain trade, as follows :

No. 10, 5 inch dial, Iron Case and O. G. Spun Ring.....	\$6 00
---	--------

Gauges with Deep Composition Cases, or Octagon Faced Rings, extra.

In this Gauge the dial should be marked to nearly twice the pressure required to be carried, which should always be stated when ordering.

IMPORTANT.—All Gauges for steam should be used in connection with a Syphon, and none are warranted without.

All Gauges are graduated and tested by an open mercury column, and warranted correct.

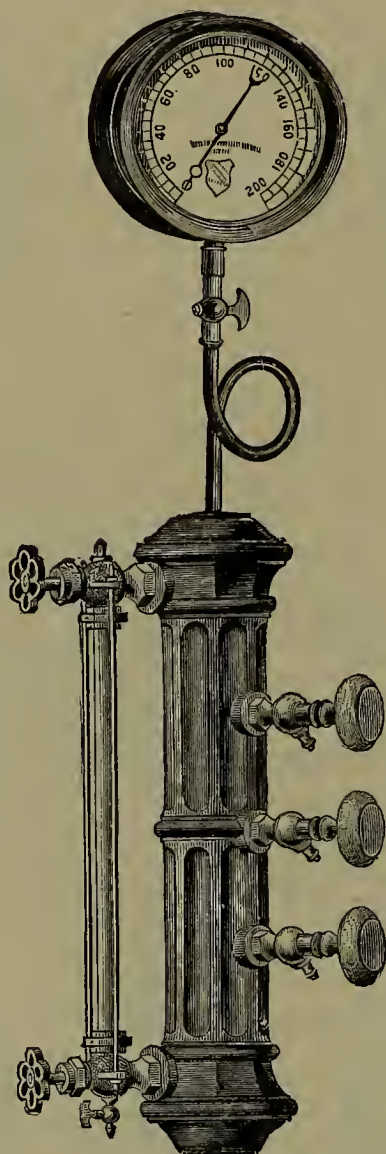
GAUGE COMBINATIONS.

A. One Water Gauge, No. 1, rough body, with two guards; one Bourdon Steam Gauge, $5\frac{1}{2}$ inch dial, iron case; three Compression Gauge Cocks, $\frac{3}{8}$ inch wood handle; one Pet Cock and one Syphon, all fitted to a 14 inch iron column, complete.

Price, complete..... \$18.00

B. One Water Gauge, No. 2, finished body, with two guards; one Crosby Improved Steam Gauge, $5\frac{1}{2}$ inch dial, iron case; three Compression Gauge Cocks, $\frac{3}{8}$ inch wood handle; one Pet Cock and one Syphon, all fitted to 14 inch iron column, complete.

Price, complete..... \$25.00



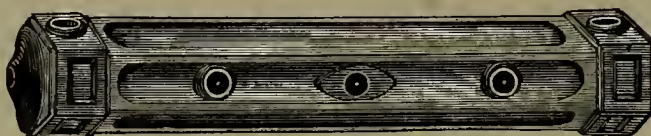
C. One Water Gauge, No. 3, finished square body; one Bourdon Steam Gauge, $5\frac{1}{2}$ inch dial, brass case; three Compression Gauge Cocks, $\frac{1}{2}$ inch wood handle, with stuffing box; one Pet Cock and one Syphon, all fitted to a 16 inch iron column, complete.

Price, complete..... \$35.00

D. One Water Gauge, No. 3, finished body, with four guards; one Crosby Improved Steam Gauge, 6 inch dial, brass case, plated rim; three Compression Gauge Cocks, $\frac{1}{2}$ inch, with wood handle and stuffing box; one Pet Cock and one Syphon, all fitted to a 16 inch iron column, complete.

Price, complete..... \$42.00

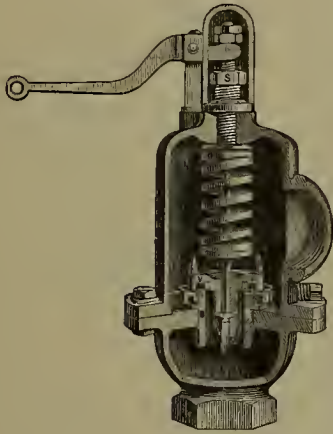
WATER COLUMNS.



14 inches long, tapped for $\frac{3}{8}$ inch Cocks, price.....	\$3 00
16 " " " " $\frac{1}{2}$ " " "	6 00

ASHCROFT'S PATENT
NICKEL SEATED "POP" SAFETY VALVES FOR STEAM BOILERS.

Patented in the United States, Canadas and Europe



No. 1.

This cut shows Valve and Spring without Cover.



No. 2.

Base, Male or Female

Made with Top or Side Outlet for Steam.

This Safety Valve is Non Corrosive, Prompt and Efficient.

For Stationary and Marine Boilers, approved by the United States Board of Supervising Inspectors.

The Nickel-Seated Safety Valve is perfectly automatic in its action, capable of discharging all the steam generated in a steam boiler, in excess of a given limit; and its bearing surfaces, which are made of solid nickel composition (not nickel plated), will not corrode, giving absolute immunity against explosion. Such a Valve will secure the boiler from injury and protect the lives of the people employed about it; and, *if desired, it may be locked up.*

In ordering, state size and kind of Boilers, and the highest working pressure carried. Also, whether you wish to attach Valves with Flange or Nipple.

Special attention given to the construction of Valves where INSTANT relief from excessive pressure is required.

PRICES NO. 1.

Size, inches.....	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	4	5	6
Price, each.	15.00	20.00	30.00	40.00	55.00	75.00	100.00	150.00	175.00

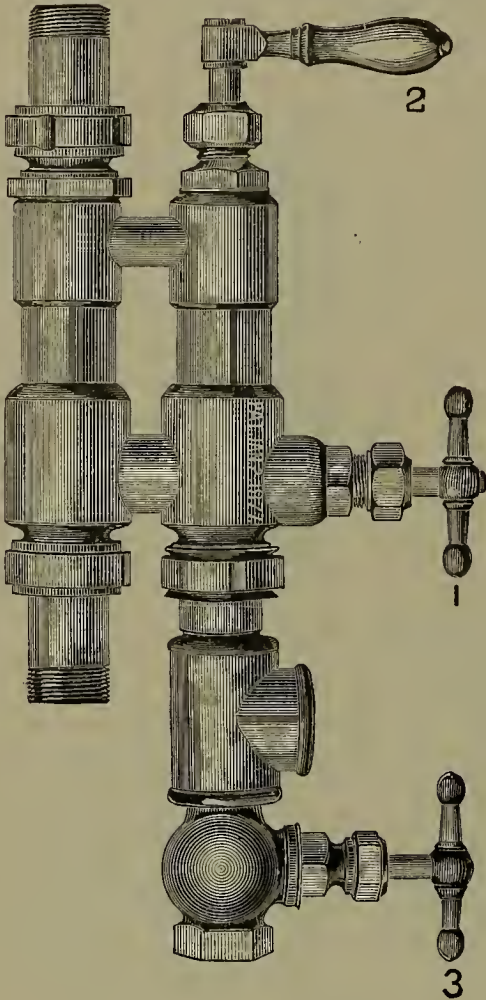
PRICES NO. 2. Without Locks.

This is a special Valve for Portable and Farm Engines.

Size, inches.....	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$
Price, Each.....	8.00	10.00	15.00	20.00

NOTE.—In ordering, state pressure at which you wish to blow off.

THE HANCOCK INSPIRATOR.



When ordering an Inspirator, please answer the following Questions;

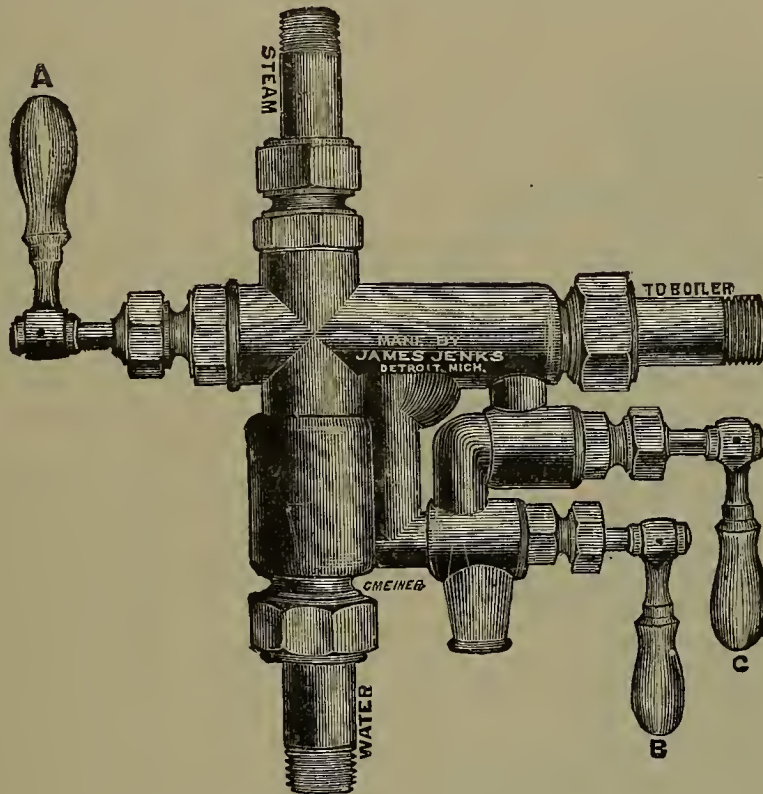
- 1. What is the horse-power of boiler or boilers; or what is the quantity of water required per hour?
- 2. What is the range of steam pressure?
- 3. What is the temperature of supply?
- 4. What is the extreme lift or head, vertically or horizontally, from supply to Inspirator?
- 5. Is water used for other purposes than feeding boilers?
- 6. What is the number of boilers?
- 7. What type of boiler is used?
- 8. What are the dimensions of boilers?

THE HANCOCK INSPIRATOR PRICE LIST.

NO. OF INSPIRATOR.	SIZE OF CONNECTIONS.		GALLONS PER HOUR, 60 LBS. PRESSURE.	PRICE.
	Suction and Feed.	STEAM.		
No. 7 $\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	60	\$ 16 00
" 8 $\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	85	18 00
" 10	$\frac{1}{2}$	$\frac{3}{8}$	120	20 00
" 12 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	220	25 00
" 15	$\frac{3}{4}$	$\frac{1}{2}$	300	30 00
" 17 $\frac{1}{2}$	1	$\frac{3}{4}$	400	40 00
" 20	1	$\frac{3}{4}$	540	45 00
" 25	1 $\frac{1}{4}$	1	900	60 00
" 30	1 $\frac{1}{2}$	1 $\frac{1}{4}$	1260	75 00
" 35	1 $\frac{1}{2}$	1 $\frac{1}{4}$	1740	90 00
" 40	2	1 $\frac{1}{2}$	2230	110 00
" 45	2	1 $\frac{1}{2}$	2820	125 00
" 50	2 $\frac{1}{2}$	2	3480	150 00

THE DUPLEX INJECTOR.

For Stationary, Marine and other Boilers. Unequaled for Simplicity, and always Reliable.



The best Boiler Feeder known; perfectly simple; always reliable; requires no adjustment; will take water under pressure; will lift water twenty-five feet; no overflow; no waste of water; works well with high steam; works well with low steam; less liable to get out of order than a pump; will feed water through a heater; for economy no superior.

In ordering the Duplex Injector, please state,

First.—The horse power of boiler or boilers, or give diameter and length of boiler or boilers and style, viz. : Tubular, Two Flue, Portable or Marine.

Second.—Give the steam pressure carried.

Third.—Whether water is taken under pressure or not.

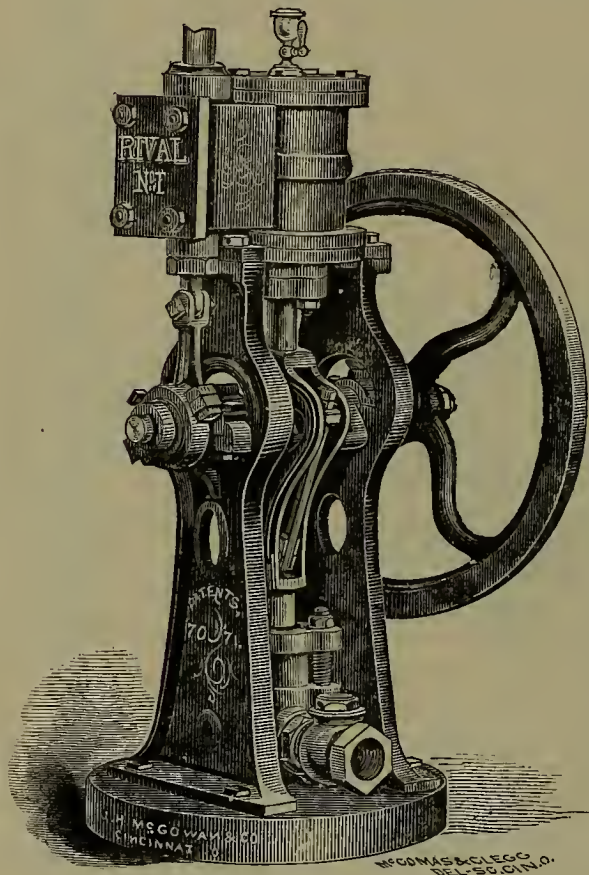
Fourth.—If water is to be lifted, give the lift or distance from Injector to water supply, both vertically and horizontally.

PRICES OF DUPLEX INJECTORS FOR STATIONARY AND MARINE BOILERS.

NUMBER OF INJECTOR.	SIZE CONNECTIONS.		GALLONS PER HOUR. 60 LBS. PRESSURE	PRICE.	NUMBER OF INJECTOR.	SIZE CONNECTIONS.		GALLONS PER HOUR. 60 LBS. PRESSURE	PRICE
	Water Suction and Supply to Boiler in inches.	Steam in inches.				Water Suction and Supply to Boiler in inches.	Steam in inches.		
3.....	$\frac{3}{8}$	$\frac{1}{4}$	65	\$20 00	15	1	$1\frac{1}{4}$	1,280	\$ 75 00
$3\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	90	21 00	17	$1\frac{1}{2}$	$1\frac{1}{4}$	1,760	90 00
5.....	$\frac{1}{2}$	$\frac{3}{8}$	130	25 00	19	2	$1\frac{1}{2}$	2,260	110 00
7..	$\frac{3}{4}$	$\frac{1}{2}$	240	30 00	21	2	$1\frac{1}{2}$	2,860	125 00
9 ...	$\frac{3}{4}$	$\frac{1}{2}$	320	35 00	23	$2\frac{1}{2}$	2	3,480	150 00
11 ..	1	$\frac{3}{4}$	560	50 00	25	3	$2\frac{1}{2}$	4,620	200 00
13	$1\frac{1}{4}$	1	960	60 00	.....	.....	.....	.....	.....

VERTICAL "RIVAL" STEAM PUMPS.

FOR FEEDING BOILERS, FIRE PURPOSES, ETC.



The "Rival" is a complete Steam Engine and Pump combined. It has a Slide Valve, operated by an eccentric on the Shaft, and also a Balance-Wheel to steady the motion. The Pump is the simple plunger pattern, and packed in the usual manner at the top end. The Valves are of the heavy cup pattern, without stems, giving a perfectly free opening, and not liable to be displaced by high speed. They are adapted to pump both hot and cold water.

These pumps will take water from the Stillwell, Armstrong or other Heaters. The opening in the Heater should be as large as that in the Pump, and the Heater located above the Pump. To pipe these Pumps to operate to best advantage, the Inlet Pipe should be as short as possible and full size, particularly when hot water is to be pumped. If the Inlet Pipe is long, a Vacuum Chamber should be attached near the Pump, which can be made by attaching an upright pipe in a **T**, and closed at the top end.

By the addition of an Air Chamber to the Force Pipe, made in the above manner, the Pump can be used for fire purposes. These Pumps are not intended to take water by suction.

TABLE OF SIZES, CAPACITIES AND PRICES.

NUMBER.	DIAMETER STEAM CYLINDER. INCHES.	DIAMETER WATER PLUNGER.	STROKE, IN INCHES.	SIZE STEAM PIPE.	SIZE ESCAPE PIPE.	SIZE WATER PIPE.	REVOLUTIONS PER MINUTE.	GALLONS PER MINUTE.	HORSE POWER IT WILL FEED.	PRICE.
50	2½	1⅜	2	¼	½	¾	110	1.05	8.4	\$ 38 00
1	3	1½	2½	⅜	½	1	100	1.89	15.	49 00
2	3½	2	2½	⅜	½	1	100	3.39	27.	60 00
3	4	2½	3	½	¾	1¼	90	5.72	45.9	71 00
4	4½	3	3	½	¾	1½	85	7.72	62.	88 00
5	5	3½	4	¾	1	2	80	13.32	106.8	108 00
6	6	4	5	1	1¼	2½	75	20.48	163.5	160 00

For further information, send for descriptive circular.

STEAM JET PUMP.

Which is Designed for Supplying Water Tanks at Mills or Factories.

FOR PUMPING WATER OR OTHER LIQUIDS, AT MINES, DISTILLERIES, BREWERIES, ETC., AND TO TAKE THE PLACE OF MORE EXPENSIVE PUMPS WHOSE COMPLICATED PARTS RENDER THEM THE MORE LIABLE TO BREAKAGE.

Please notice the following points of superiority over the ordinary Cold Water Pump. where, as in most locations, it is necessary to raise water only to moderate heights or to fill Tanks for the feeding of Boilers :

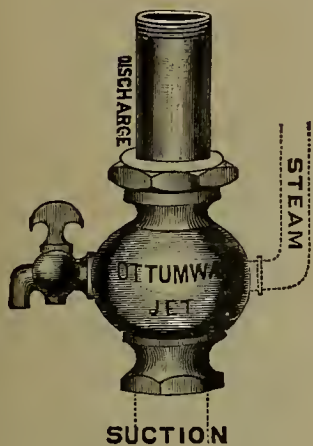


Fig. 80.

Drawing steam direct from the boiler; they may be operated regardless of all other machinery and can be placed in a cistern, well, or near any water supply at any distance, either long or short from the boiler. The standard size will make 14 feet suction and will raise water from 15 to 60 feet in height. The pressure of steam required is about one pound per square inch for each foot the water is to be raised. Our Pumps are made, in all their parts, of standard sizes and are uniform in their operation. As they have no moving parts they require no packing and CAN NOT GET OUT OF ORDER.

Directions for Purchasing and Putting up Steam Jet Pump.

- 1st. The size of the Pump is determined by the internal diameter of the Suction Pipe.
- 2nd. In no case should a smaller Pipe be used than indicated in the table below, and where the Pump is placed a long distance from the Boiler, the Steam Pipe should be one or two sizes larger and should be protected by some kind of packing.
- 3rd. In ordering Pumps give distance of water from Tank; from the Boiler to where you desire to place the pump; height to which water is to be raised and pressure of steam used.
- 4th. Place the Pump at a point as near the water as possible, and not over 14 feet perpendicularly from the water to be raised. Put a Stop Cock in the Steam Pipe at a convenient point for starting and stopping the Pump.
- 5th. Connect the Steam, Discharge and Suction Pipe, as shown in the above cut, and place the Discharge Pipe so that the water will all run out, when the steam is shut off. It will be necessary to fit a Strainer on the end of Suction Pipe, using care that the supply of water is not reduced too much thereby.

DIRECTIONS FOR OPERATING.

- 1st. Turn on the Steam slowly until the Suction is formed, which will be indicated by a peculiar noise in the Pump; then turn on Steam enough to drive the water to point of discharge.
- 2nd. In case the Pump fails to start, one of the following three causes must be remedied: 1st. Leaks in the Suction Pipe. 2nd. Obstructions in the Suction Pipe or in the Pump. 3rd. Too high suction. Not over 25 lbs. of steam need be used to form the suction, and higher steam must be carried according to the height of the discharge at about the rate of one pound per foot.

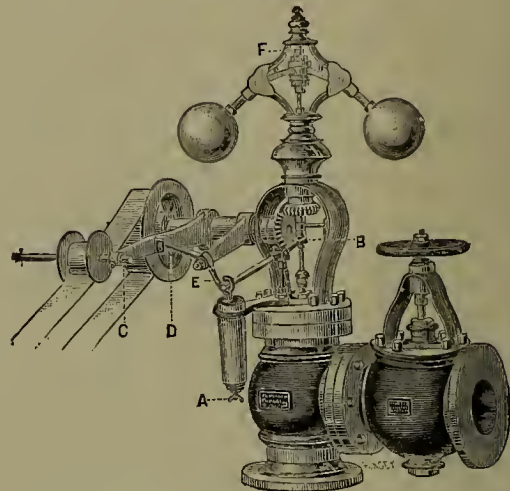
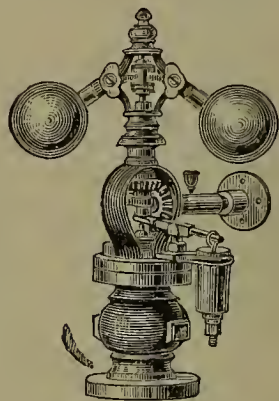
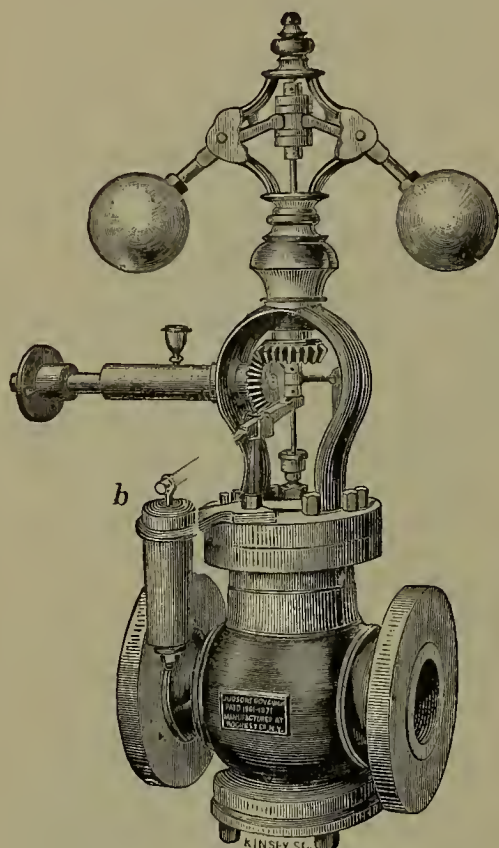
PRICE LIST.

Size of Pump.	Suction Pipe.	Discharge Pipe.	Steam Pipe.	Capacity. Gallons per Minute.	Price. Brass Jets.
$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{8}$	8 to 10	8.00
1	1	1	$\frac{1}{2}$	12 to 15	10.00
$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$\frac{1}{2}$	15 to 20	12.00
$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$\frac{3}{4}$	25 to 30	15.00
2	2	2	$\frac{3}{4}$	30 to 40	18.00 Iron B. Mounted.

These Pumps will operate with best results where there is a plentiful supply of water. It is sometimes noticed that after running for a time they will suddenly "let go," and have to be started again. This may be due to a scarcity of water, a leak in the Suction Pipe, which, becoming exposed by the lowering of the water, lets the air into the Pump, or a PEBBLE IN THE PUMP; this last is often quite annoying, as for instance: a pebble which is too large to pass through the water nozzle in the Pump, will act as a "bob," and will, by advancing and receding, partially shut off the discharge and finally becoming fast, will stop the Pump. When the steam is shut off, the water in the discharge pipe running back, will dislodge the pebble and force it back into the Suction Pipe, where it will remain and cause the same annoyance indefinitely, until it is removed or passes through. A strainer placed on Suction Pipe will obviate that difficulty and save much annoyance.

These Pumps are not for feeding Boilers (which only can be done by a Force Pump) They are made entirely of Brass, which prevents them from rusting or corroding when other liquids than water are used. Every Pump is fully warranted. In case any are imperfect we will bear all expense of express, in making the exchange for another one. or will refund the money if preferred.

JUDSON PATENT IMPROVED GOVERNORS.



When Governors are ordered, be particular and say, Governor with Stop Valve, or without Stop Valve; and either Plain or Bright Finish, as you may require, and with or without Speed Changer, Stop Motion or Sawyer's Lever. Exact speed of each Governor is marked on the top head. See also column of Speeds in Price List.

Cap. of Governor, or Diam. of Steam Pipe, inches.	PRICE OF J. & G. GOVERNORS					Size of Governor to Diam. of Engine Cylinder at ordinary speed of Piston (300 feet per minute). For greater speed, use larger Govern- ors.	Diam. of Base Flange, inches.	Diam. of Side Flange, inches.	Distance from Base Flange to Center Steam Pipe, inches.	Distance from Center Govern- or to end Pulley Shaft, ins.	Extreme Height, inches.	Distance from Base Flange to Center Pulley Shaft, ins.	Distance fr. Center Governor Valve to Stop Valve, ins.	Speed of Governor. No. of Revolutions per minute.	Greatest Expansion of Balls, inches.	Diam. and Face of Pulley that should be put on each Governor to drive it pro- perly, in inches.
	Plain.	Bright Finish.	Spring Speeder, for altering Speed.	Stop Motion and Spring Speeder.	Improved Stop Valve											
$\frac{1}{2}$	\$15 00	\$17 00	\$1 00	.....	.....	2 to 3	Screwed		2	7	11 $\frac{1}{2}$	5	1 $\frac{1}{2}$	320	8 $\frac{3}{4}$	3 x 1
$\frac{3}{4}$	16 00	18 00	1 70	.....	.....	2 to 3	3 $\frac{1}{2}$		3	7	12	6	2	320	8 $\frac{3}{4}$	3 x 1 $\frac{1}{4}$
1	18 00	20 00	1 80	.....	.....	4 to 5	4 $\frac{1}{2}$	Screwed for Steam Pipe.	2	7 $\frac{1}{2}$	13	7	2 $\frac{1}{2}$	160	9 $\frac{3}{4}$	3 $\frac{1}{2}$ x 1 $\frac{1}{4}$
1 $\frac{1}{4}$	20 00	23 00	1 90	.....	\$6 00	5 to 6	5		3	10 $\frac{1}{4}$	18 $\frac{1}{4}$	8 $\frac{3}{4}$	2 $\frac{1}{2}$	140	12	4 x 1 $\frac{1}{4}$
1 $\frac{1}{2}$	23 00	27 00	2 00	\$5 00	7 50	6 to 7	5 $\frac{1}{2}$		3 $\frac{1}{2}$	11 $\frac{1}{2}$	20 $\frac{1}{2}$	10 $\frac{1}{2}$	3	135	12 $\frac{3}{4}$	4 x 1 $\frac{1}{2}$
2	27 00	31 00	2 20	6 00	9 00	7 to 8	6 $\frac{1}{2}$		4	12 $\frac{1}{2}$	23	12 $\frac{1}{2}$	3	135	13 $\frac{1}{2}$	4 $\frac{1}{2}$ x 1 $\frac{1}{2}$
2 $\frac{1}{4}$	32 00	37 00	2 40	7 00	11 00	8 to 9	7 $\frac{1}{2}$	6	4 $\frac{1}{2}$	14 $\frac{1}{2}$	26 $\frac{1}{2}$	14	4 $\frac{1}{2}$	110	17 $\frac{1}{2}$	5 x 2
2 $\frac{1}{2}$	36 00	41 00	2 60	7 00	12 00	9 to 10	7 $\frac{1}{2}$	Screwed	4 $\frac{3}{4}$	14 $\frac{1}{4}$	28	14 $\frac{1}{4}$	4	105	18	5 $\frac{1}{2}$ x 2
2 $\frac{3}{4}$	40 00	46 00	2 80	8 00	14 00	10 to 11	8 $\frac{1}{2}$	7	5 $\frac{3}{4}$	14 $\frac{1}{2}$	28 $\frac{1}{2}$	15 $\frac{1}{2}$	5 $\frac{1}{2}$	105	18	6 x 2
3	45 00	52 00	3 00	8 00	17 00	11 to 12	9	8	5 $\frac{1}{2}$	15	32 $\frac{1}{2}$	17 $\frac{1}{2}$	6	98	19 $\frac{3}{4}$	7 x 2
3 $\frac{1}{2}$	54 00	62 00	3 25	9 00	21 00	12 to 14	10	9	6 $\frac{1}{2}$	17	35 $\frac{1}{2}$	19 $\frac{3}{4}$	6 $\frac{1}{2}$	98	21 $\frac{3}{4}$	8 x 2
4	64 00	73 00	3 50	10 00	25 00	14 to 16	11	10	7 $\frac{1}{2}$	18 $\frac{1}{2}$	38	20 $\frac{1}{2}$	7	95	25 $\frac{1}{2}$	9 x 2 $\frac{1}{2}$
4 $\frac{1}{2}$	74 00	84 00	3 75	11 00	31 00	16 to 18	11 $\frac{1}{2}$	10 $\frac{1}{2}$	7 $\frac{1}{2}$	21	42	22 $\frac{1}{2}$	7	92	28	10 x 2 $\frac{1}{2}$
5	84 00	95 00	4 00	12 00	37 00	18 to 20	12	11	7 $\frac{1}{2}$	21	42 $\frac{1}{2}$	22 $\frac{1}{2}$	7 $\frac{1}{2}$	92	28	11 x 3
5 $\frac{1}{2}$	97 00	109 00	4 25	14 00	42 00	20 to 23	13	12	8 $\frac{1}{2}$	22	48	24 $\frac{1}{2}$	8	85	32	12 x 3
6	110 00	123 00	4 50	15 00	50 00	23 to 26	14	13	9 $\frac{1}{4}$	23	50	26 $\frac{1}{2}$	8 $\frac{1}{2}$	77	35	14 x 3 $\frac{1}{2}$
7	130 00	144 00	5 00	17 00	60 00	26 to 28	15 $\frac{1}{2}$	14 $\frac{1}{2}$	9 $\frac{1}{2}$	23	51	27 $\frac{1}{2}$	9	77	35 $\frac{1}{2}$	14 x 3 $\frac{1}{2}$
8	160 00	175 00	6 00	19 00	75 00	28 to 30	17	16	10 $\frac{1}{2}$	24	55 $\frac{1}{2}$	30	10	70	37 $\frac{1}{2}$	16 x 4
9	180 00	196 00	7 00	21 00	.....	30 to 33	18	17	11 $\frac{1}{2}$	26	59	33 $\frac{1}{2}$	11	70	40	18 x 4 $\frac{1}{2}$
10	200 00	218 00	8 00	23 00	...	33 to 37	20	19	13 $\frac{1}{2}$	26	63	37	12 $\frac{1}{2}$	70	40	18 x 4 $\frac{1}{2}$

THE SMITH-VAILE STEAM PUMPS

Are Recommended to the Users of Steam Pumps as the Simplest and Most Durable of any in the Market, for the following Reasons:

First.—A plain Slide Valve.

Second.—Simplest in construction.

Third.—Made of the best material.

Fourth.—A positive connection from Piston Rod to main Valve.

Fifth.—Gradual closing of Steam Valve as it approaches the end of its stroke.

Sixth.—Using no Springs, Tappets or revolving Valves in Steam Chest.

Seventh.—An improved removable Water Cylinder.

Eighth.—Adapted for either hot or cold water.

Ninth.—No dead centers.

Tenth.—Can be run at any speed.

Eleventh.—Using the Improved Removable Water Cylinder.

It is for the interest of the purchaser, when ordering a Pump, to state fully the condition under which they desire the Pump to work:

First.—For what purpose is the Pump to be used?

Second.—What is the average steam pressure?

Third.—What is the liquid to be pumped, and is it hot or cold?

Fourth.—The height to be lifted by suction?

Fifth.—The height of discharge above the Pump?

Sixth.—The greatest and average amount of liquid per hour?

In all Pumps of 10-inch stroke we use only two sizes of Water Box, the smaller size taking from 4 to 6½ inch diameter removable Water Cylinder; the larger size taking from 6 to 7½ inches diameter.

These removable Cylinders are turned to gauge, so that they can be removed for repair, when needed, and another inserted without disturbing the pipe connections, and of sufficient thickness to admit of re-boring when necessary.

THE SMITH-VAILE STEAM PUMP is direct-acting, having a *positive motion* imparted to the main Slide Valve from a Cross-Head on the Piston Rod, through a Concave which is directly connected to the Slide Valve (as shown in cut).

By the movement of the Cross-Head under the Concave, the main Valve is closed gradually, commencing at two-thirds stroke, thus preventing much of the concussion of a reverse stroke.

Attached to the main Valve, and carried with it, is a supplemental Piston, which, on the arrival of the main Valve at the center, takes steam at one end and carries the main Valve to the end of its stroke, or opens the port for a reverse stroke of the Pump—this being the only duty of the supplemental Piston, as the closing of the port is done by the Cross-Head.

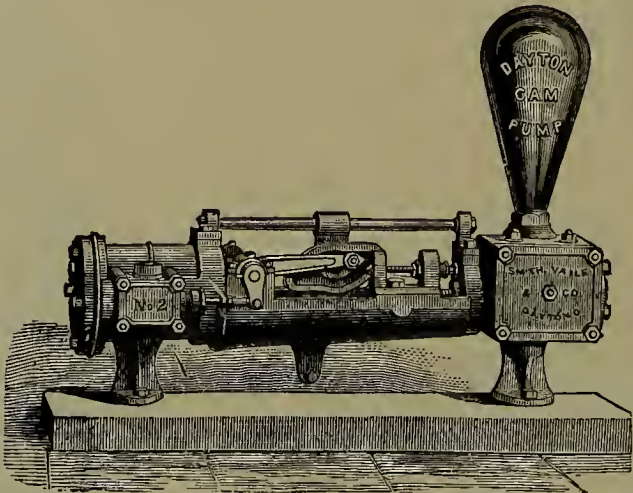
THE DAYTON CAM PUMP

Is especially adapted to boiler feeding at slow speed; also, in returning the condensed water of steam heating-coils direct to the boiler without the use of traps. This simple form of heating buildings does away with all complications, freezing of pipes, troublesome traps, etc., etc.

We are prepared to show plans of how buildings with dry houses connected, using over one hundred thousand feet of heating pipes, have been heated for the past three years (without any traps), and the condensation returned to the boiler at a heat due to 100 pounds boiler pressure, working automatically, requiring no further care than oiling the Pump occasionally.

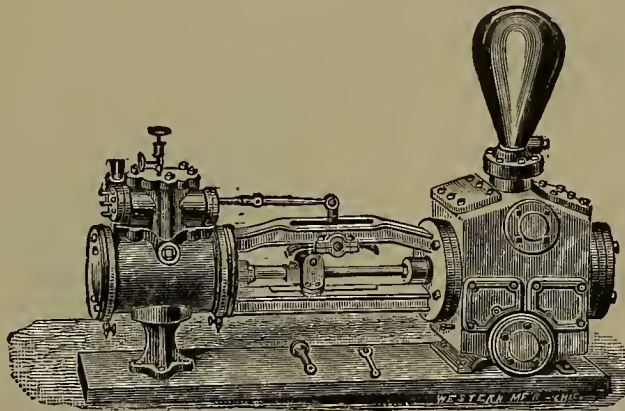
DAYTON CAM PUMP.

FOR BOILER FEEDING AND PUMPING HOT WATER.



NUMBER.	DIAMETER OF STEAM CYLINDER. INCHES.	DIAMETER OF WATER CYLINDER. INCHES.	LENGTH STROKE. INCHES.	GALLONS PER SINGLE STROKE.	SIZE OF STEAM SUPPLY PIPE. INCHES.	SIZE OF STEAM EXHAUST PIPE. INCHES.	SIZE OF SUCTION. INCHES.	SIZE OF DISCHARGE. INCHES.	PRICE.
1	3 $\frac{5}{8}$	2 $\frac{1}{8}$	3	.046	$\frac{1}{2}$	$\frac{3}{4}$	1	$\frac{3}{4}$	\$ 80 00
2	4 $\frac{3}{4}$	3	4	.122	$\frac{1}{2}$	1	1 $\frac{1}{4}$	1	135 00
3	5	3 $\frac{1}{8}$	6	.199	$\frac{3}{4}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{4}$	185 00
4	6 $\frac{3}{8}$	4	7	.38	1	1 $\frac{1}{4}$	2	1 $\frac{1}{2}$	220 00
5	7	4	10	.544	1	2	2 $\frac{1}{2}$	2	300 00
6	9	5	10	.850	1 $\frac{1}{4}$	2 $\frac{1}{2}$	3	2 $\frac{1}{2}$	350 00
6 $\frac{1}{2}$	11	7	10	1.66	1 $\frac{1}{2}$	2 $\frac{1}{2}$	4	3	425 00
7	11	6 $\frac{1}{2}$	14	2.01	1 $\frac{1}{2}$	2 $\frac{1}{2}$	4	3	500 00
8	13 $\frac{1}{2}$	7 $\frac{1}{2}$	14	2.68	2	3	5	4	600 00
9	16 $\frac{1}{2}$	10	18	6.12	2 $\frac{1}{2}$	4	6	5	800 00

SMITH-VAILE PATENT STEAM PUMPS.
FOR BOILER FEED AND HEAVY PRESSURE.

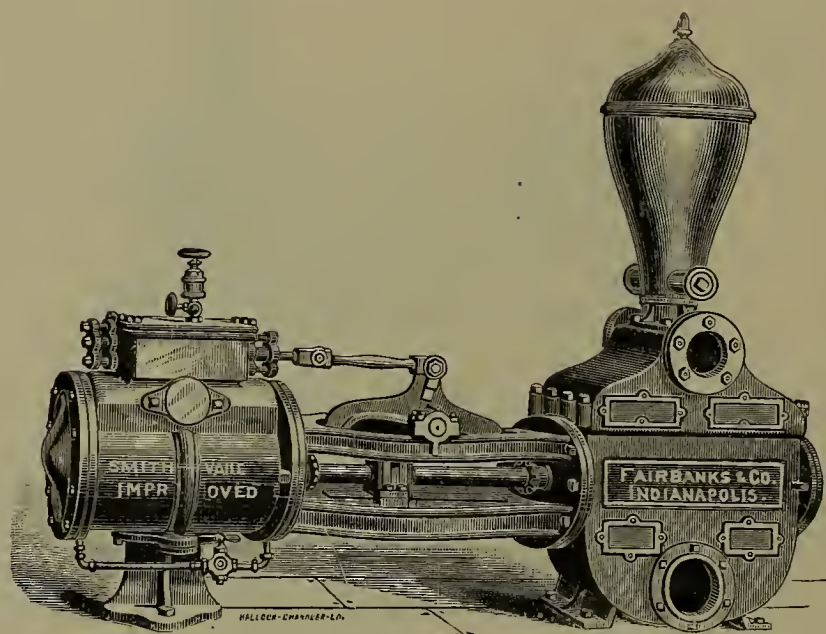


STEAM CYLINDER.	ATER CYLINDER.	STROKE.	CAPACITY OF STROKE.	STEAM SUPPLY.	EXHAUST.	SUCTION.	DISCHARGE.	PRICE.
5½	3¼	7	.25	1	1¼	2	1½	\$200 00
6½	3¼	7	.25	1	1½	2	1½	220 00
6½	4	7	.39	1	1½	3	2½	225 00
7½	4	10	.54	1	2	2½	2	325 00
7½	5	10	.85	1	2	3	2½	350 00
9½	5	10	.85	1¼	2½	3	2½	375 00
9½	6	10	1.22	1¼	2½	3	2½	400 00
11	6½	14	2.01	1½	2½	4	3	500 00
11	7	14	2.32	1½	2½	5	4	525 00
13½	7½	14	2.68	2	3	5	4	600 00
16½	9	18	4.95	2½	4	6	6	.....
16½	10	18	6.12	2½	4	6	6	.....
18	10	24	8.16	3	4	8	8	.....
18	12	24	11.74	3	4	8	8	.....
20	10	24	8.16	3	4	8	8	.....
20	12	24	11.74	3	4	10	8	.....
20	14	24	16.4	3	4	10	8	.....
20	14	30	20.5	3	4	10	8	.....

These Pumps are supplied with our Patent Removable Water Cylinder, which can be removed or changed without breaking connections.

SMITH-VAILE FIRE PUMPS.

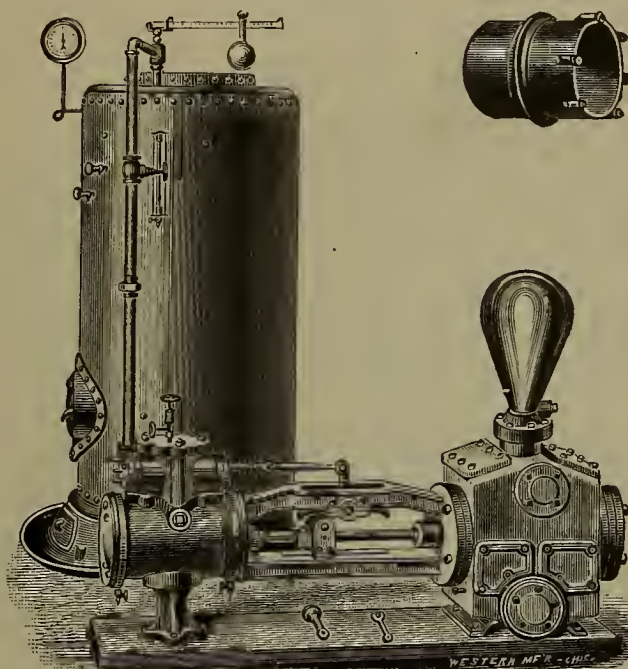
Positive, Simple and Powerful.



STEAM CYLINDER.	WATER CYLINDER.	STROKE.	CAPACITY SINGLE STROKE.	STEAM SUPPLY.	EXHAUST.	SUCTION.	DISCHARGE.	PRICE.
7 $\frac{1}{2}$	4	10	.54	1	2	2 $\frac{1}{2}$	2	\$325 00
9 $\frac{1}{2}$	4	10	.54	1 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2	350 00
9 $\frac{1}{2}$	5	10	.85	1 $\frac{1}{4}$	2 $\frac{1}{2}$	3	2 $\frac{1}{2}$	375 00
9 $\frac{1}{2}$	6	10	1.22	1 $\frac{1}{4}$	2 $\frac{1}{2}$	3	2 $\frac{1}{2}$	375 00
11	6 $\frac{1}{2}$	14	2.01	1 $\frac{1}{2}$	2 $\frac{1}{2}$	4	3	400 00
13 $\frac{1}{2}$	6 $\frac{1}{2}$	14	2.01	2	3	4	4	500 00
13 $\frac{1}{2}$	7 $\frac{1}{2}$	14	2.68	2	3	5	4	550 00
16 $\frac{1}{2}$	7 $\frac{1}{2}$	14	2.68	2 $\frac{1}{2}$	4	5	4	600 00
16 $\frac{1}{2}$	9	18	4.95	2 $\frac{1}{2}$	4	6	6	.....
16 $\frac{1}{2}$	10	18	6.12	2 $\frac{1}{2}$	4	6	6	.....
18	10	18	6.12	3	4	6	6	.....
18	11	18	7.69	3	4	8	6	.....
18	10	24	8.16	3	4	6	6	.....
18	11	24	10.25	3	4	8	6	.....
20	10	24	8.16	3	4	6	6	.....
20	12	24	11.74	3	4	8	8	.....
20	14	24	16.4	3	4	10	8	.....
20	10	30	10.20	3	4	8	6	.....
20	12	30	14.06	3	4	8	8	.....
20	14	30	20.15	3	4	10	8	.....

Estimates for larger size or other combinations of Cylinders given on application.

PATENT DIRECT ACTING STEAM PUMPS,
WITH BOILER AND FIXTURES COMPLETE.



ARRANGED ESPECIALLY FOR RAILWAY WATER STATIONS.

These Pumps are fitted with PATENTED REMOVABLE WATER CYLINDER, which can be removed or changed without disturbing any pipe connections.

NUMBER.	DIAMETER OF STEAM CYLINDER.	DIAMETER OF WATER CYLINDER.	LENGTH OF STROKE.	GALLONS PER STROKE.	STEAM SUPPLY.	EXHAUST PIPE.	SIZE OF SUCTION.	SIZE OF DIS- CHARGE.	PRICE OF PUMP.	PUMP AND BOILER. PRICE COMPLETE.
	Inches.									
15	5 $\frac{1}{8}$	3 $\frac{1}{4}$	7	.25	1	1 $\frac{1}{4}$	2	1 $\frac{1}{2}$	\$200	\$475
16	5 $\frac{3}{8}$	4	7	.39	1	1 $\frac{1}{4}$	2 $\frac{1}{2}$	2	210	500
17	5 $\frac{1}{2}$	5 $\frac{1}{2}$	7	.72	1	1 $\frac{1}{4}$	3	2 $\frac{1}{2}$	225	525
18	6 $\frac{1}{8}$	4	7	.39	1	1 $\frac{1}{4}$	2 $\frac{1}{2}$	2	225	525
19	6 $\frac{1}{2}$	5 $\frac{1}{2}$	7	.72	1	1 $\frac{1}{2}$	3	2 $\frac{1}{2}$	250	550
20	7 $\frac{1}{2}$	4	10	.54	1	2	2 $\frac{1}{2}$	2	325	600
21	7 $\frac{1}{2}$	5	10	.85	1	2	3	3	350	625
23	7 $\frac{1}{2}$	6	10	1.22	1	2	4	3	365	650
25	7 $\frac{1}{2}$	7	10	1.66	1	2	4	2	375	675
26	7 $\frac{1}{2}$	7 $\frac{1}{2}$	10	1.99	1	2	4	4	375	700
27	9 $\frac{1}{2}$	5	10	.85	1 $\frac{1}{4}$	2 $\frac{1}{2}$	3	3	375	700
29	9 $\frac{1}{2}$	6	10	1.22	1 $\frac{1}{4}$	2 $\frac{1}{2}$	4	3	400	740
31	9 $\frac{1}{2}$	7	10	1.66	1 $\frac{1}{4}$	2 $\frac{1}{2}$	4	4	415	780
32	9 $\frac{1}{2}$	7 $\frac{1}{2}$	10	1.99	1 $\frac{1}{4}$	2 $\frac{1}{2}$	4	4	425	800
33	11	7	14	2.32	1 $\frac{1}{2}$	2 $\frac{1}{2}$	5	5	510	...
34	11	8	14	3.05	1 $\frac{1}{2}$	2 $\frac{1}{2}$	6	5	535	....
35	11	9	14	3.85	1 $\frac{1}{2}$	2 $\frac{1}{2}$	6	6	550	....
37	13 $\frac{1}{2}$	8	14	3.05	2	3	6	6	625	....
38	13 $\frac{1}{2}$	9	14	3.85	2	3	6	6	650	....
39	13 $\frac{1}{2}$	10	18	6.12	2	3	8	7	....	....
40	13 $\frac{1}{2}$	12	18	8.81	2	3	8	8	....	....

Every Pump and Boiler thoroughly tested before leaving our Works.

Eureka Low Pressure Steam Heating Apparatus.

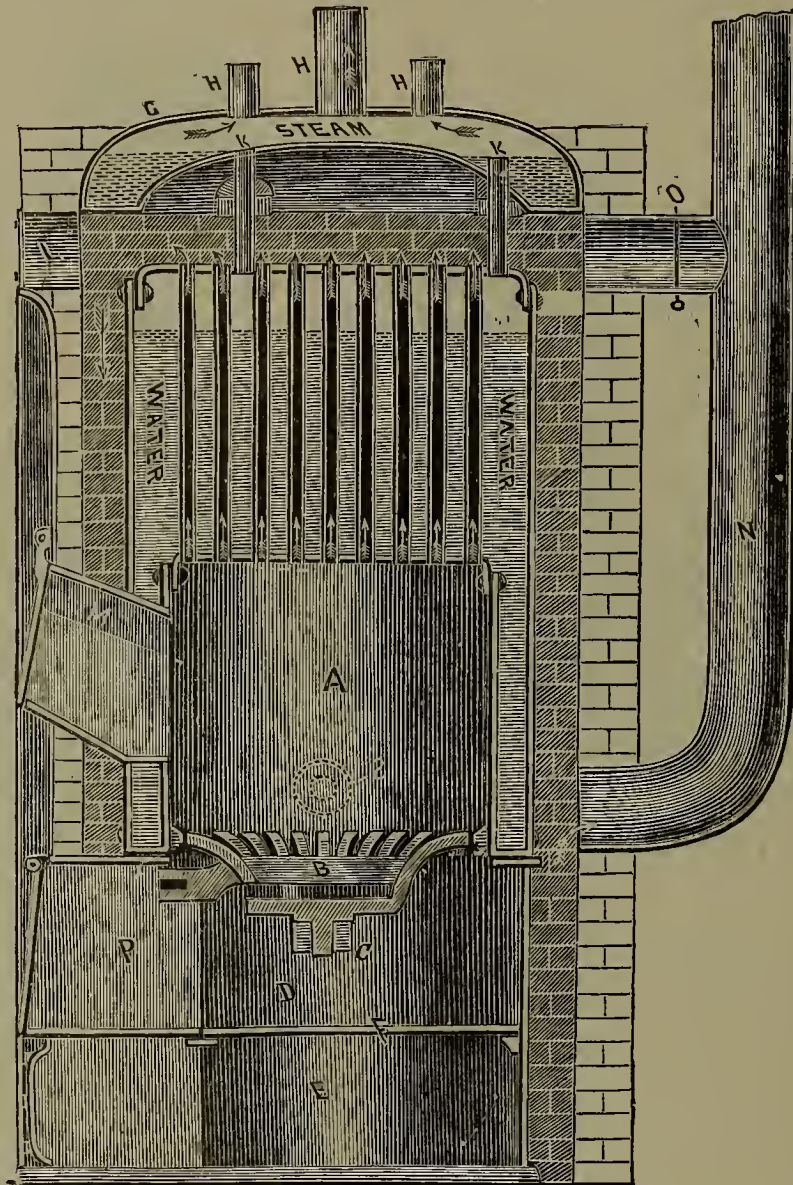


Fig. 81.

SECTIONAL VIEW OF LOW PRESSURE STEAM GENERATOR, FRONT TO REAR.

EXPLANATION.

(A) Fire-box. (B) Fire-grate; a shake and dump grate, perfectly cleaned of waste quickly, without losing the fire. (C) Grate bar supporting fire grate. (D) Space between fire and ash grates. (E) Ash pit beneath ash grate. (F) Ash grate in two parts. (G) Steam dome connected to top of boiler proper, with three nipples *k k*, which extend to height of concave surface, holding water to that height, thus preventing the possibility of superheating. By this arrangement water is carried much higher in the boiler proper than is practical with ordinary vertical boilers, and greater length of life is given it. (H) (H) (H) Steam feed pipes. (L) Cleaner box, through which tubes are cleaned with steam, and more quickly than most other boilers. (M) Feed mouth for fuel. (N) Smoke flue with direct and indirect connections. (O) Damper set in direct flue. (S) Diagram of open flange on outside, to which return drip pipes are connected. (T) Apex of an inverted V, closing at a point just below where the diameter of smoke flue would come below bottom edge of dome. The extremes of the Δ extend down and around the sides of boiler, terminating just above the flanges S. The work entire is set on a cast iron base plate (seen at bottom). In setting the brick work a space three inches in the clear is left around the boiler proper and circular part of base, except the Δ , which is made by crowding bricks in on end against the boiler.

The Δ constructed as described, in combination with damper O, when closed compels the products of combustion, when passed through the tubes, to turn over and down that part the shell in front of the Δ , when, on reaching its extremes at S, they pass to the rear and out through the indirect base flue of smoke pipe N. This is the usual operation, and by it the fire surfaces are largely increased, and with the more thorough application of heat there is much less fuel required to make the same steam than with most boilers. The damper in direct flue may be opened for any needed convenience.

EUREKA LOW PRESSURE STEAM HEATING APPARATUS.

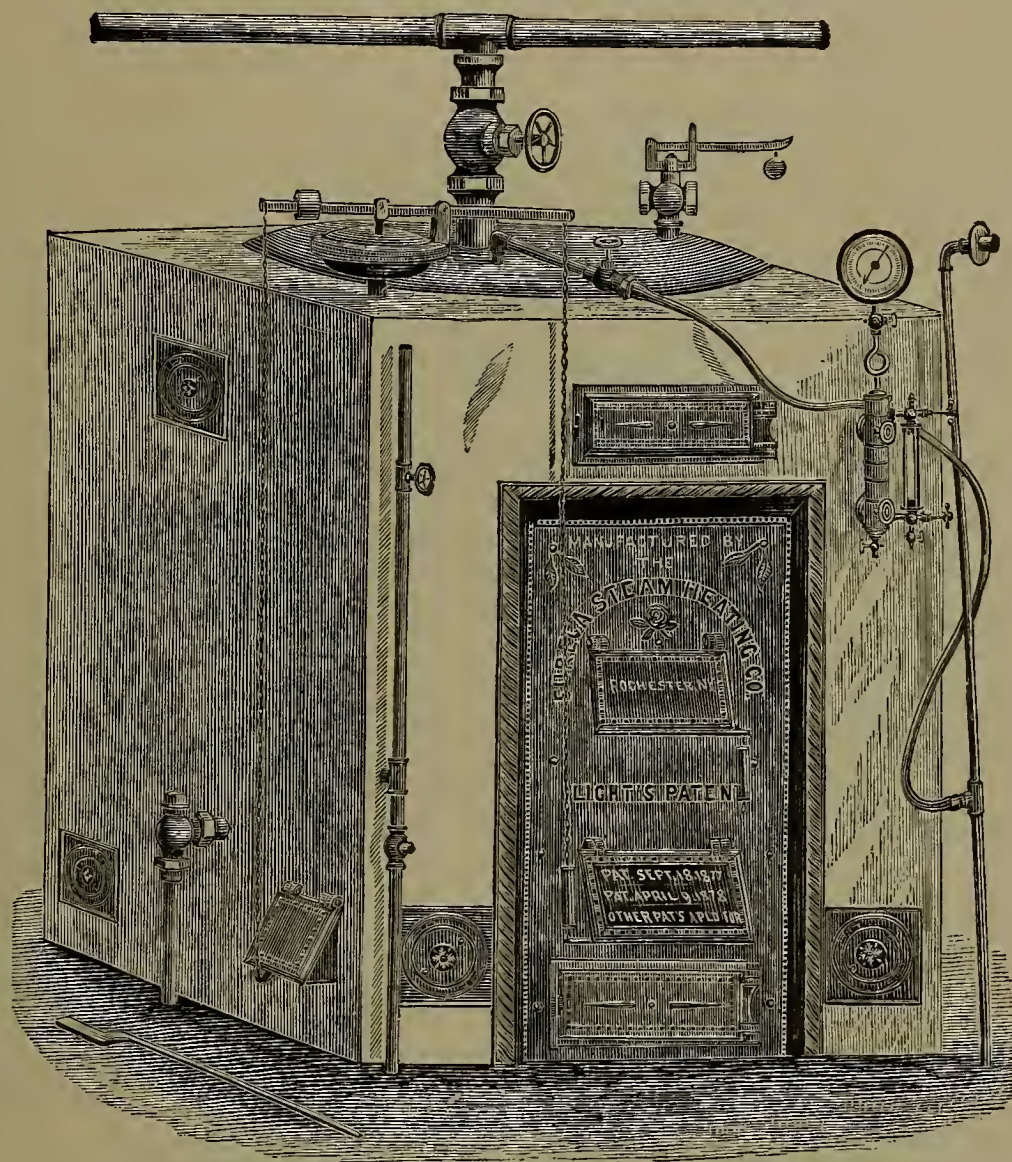


Fig. 82.

SET IN BRICK, WITH TRIMMINGS AND FIXTURES COMPLETE.

EXPLANATION.

At the top will be seen the main steam feed pipe with valve set to same; also safety valve. A connection for the steam cleaner with valve set at front edge, and, for convenient illustration, we have shown the hose and cleaner attachment complete.

By this attachment to clean the boiler flues, the valve in feed pipe would be closed, steam run up to ten or twelve pounds, when, on opening the door above ornamental front and inserting the cleaner, each tube may be blown clean of soot, also any recesses in or around the boiler. Hand holes, for cleaning out soot accumulations at base of boiler work are shown on side and front. At the right upper corner is seen the Combination Box with Trycocks, Water Gauge and Steam Gauge attached.

On the left hand upper corner is seen the Automatic Regulating Apparatus, with its attachments. The chain at right hand of bar connects to the draft door and the one on the opposite end to the door of the cold-air check draft. By increasing the weight seen on the left hand end of bar the fire and steam is increased, and by decreasing the weight the intensity of the fire and steam is reduced, and the weights may be so adjusted as to hold the steam continuously at one's will. At front left hand corner of brick work is seen the water connection with the valve shut off. Also below the inlet to boiler, is seen the waste or blow-off attachment, for cleaning the boiler of water or sediment, which waste should connect to sewer.

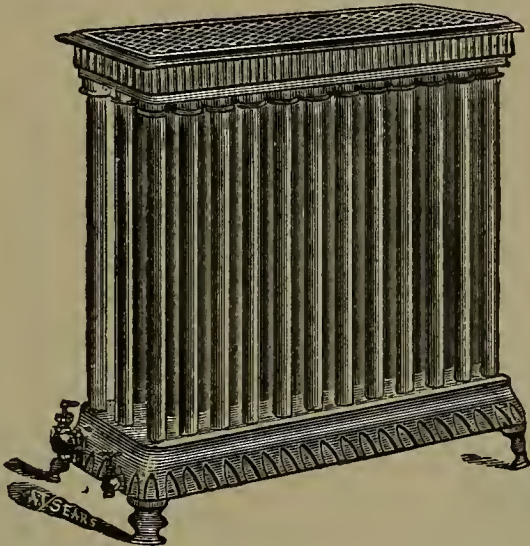
At the left hand lower center is seen the connection for return to boiler of waters of condensation, with a check valve on the angle. The ornamental front shows the doors opening into fire pot, the draft door opening to between the fire and ash grates, and ash door opening to underneath ash grate for the removal of ashes. That part of the lower center front containing the draft and ash doors is removable to admit of replacing the grates.

Description in Detail of all sizes of the Eureka Steam Heating Apparatus.

NUMBER OF BOILER.	DEPTH OF FIRE POT.	DIAMETER OF FIRE POT.	DIAMETER OF SHELL.	LENGTH OF SHELL.	DIAMETER OF TUBES.	LENGTH OF TUBES.	NUMBER OF TUBES.	GAUGE OF SHELL.	GAUGE OF HEADS.	SPACE BET. BOILER AND DOME.	HEIGHT OF DOME.	DIAMETER OF DOME.	DEPTH UNDER ASH GRATE.	HEIGHT BETWEEN GRATES	HEIGHT OF BASE.	HEIGHT OF WATER LINE.	TOTAL HEIGHT.	FEET OF HEAT SURFACE.	SIZE STEAM FEED.	SIZE RETURN PIPE.	NUMBER OF BRICK REQUIRED TO SET.	SIZE SQUARE OF BRICK WORK.	DIAM. OF CIRC. SMOKE FLUE.	NUMBER OF CUBIC FEET EACH BOILER WILL CARRY RADIATION FOR.
1	Ins. 18	Ins. 18	Ins. 22	Ins. 36	Ins. 2 1/2	Ins. 18	19	Ins. 1 1/2	Ins. 3	4	Ins. 5 7/8	Ins. 28	Ins. 7	Ins. 9	Ins. 17	Ins. 50	Ins. 63	Ins. 49	Ins. 2	Ins. 1 1/2	900	Ins. 44	Ins. 8	16,000 to 20,000
2	Ins. 18	Ins. 18	Ins. 22	Ins. 42	Ins. 2 1/2	Ins. 24	19	Ins. 1 1/2	Ins. 3	4	Ins. 5 7/8	Ins. 28	Ins. 7	Ins. 9	Ins. 17	Ins. 56	Ins. 69	Ins. 58	Ins. 2	Ins. 1 1/2	950	Ins. 44	Ins. 8	19,000 to 25,000
3	Ins. 18	Ins. 23	Ins. 27	Ins. 36	Ins. 2 1/2	Ins. 18	32	Ins. 1 1/2	Ins. 3	4	Ins. 6 1/8	Ins. 33	Ins. 7	Ins. 11	Ins. 19	Ins. 52	Ins. 66	Ins. 70	Ins. 2 1/2	Ins. 1 1/2	1,050	Ins. 49	Ins. 10	23,000 to 30,000
4	Ins. 18	Ins. 27	Ins. 31	Ins. 40	Ins. 2 1/2	Ins. 22	48	Ins. 1 1/2	Ins. 3	4	Ins. 6 3/4	Ins. 33	Ins. 7	Ins. 11	Ins. 19	Ins. 56	Ins. 70	Ins. 80	Ins. 3	Ins. 1 1/2	1,100	Ins. 49	Ins. 10	26,000 to 33,000
5	Ins. 18	Ins. 27	Ins. 31	Ins. 36	Ins. 2 1/2	Ins. 18	48	Ins. 1 1/2	Ins. 3	4	Ins. 7 1/8	Ins. 37	Ins. 7	Ins. 13	Ins. 21	Ins. 54	Ins. 70	Ins. 93	Ins. 3	Ins. 2	1,350	Ins. 53	Ins. 12	31,000 to 40,000
6	Ins. 18	Ins. 30 1/4	Ins. 31	Ins. 39	Ins. 2 1/2	Ins. 21	48	Ins. 1 1/2	Ins. 3	4	Ins. 7 1/8	Ins. 37	Ins. 7	Ins. 13	Ins. 21	Ins. 57	Ins. 73	Ins. 103	Ins. 3	Ins. 2	1,400	Ins. 53	Ins. 12	34,000 to 45,000
7	Ins. 18	Ins. 30 1/4	Ins. 31	Ins. 38	Ins. 2 1/2	Ins. 20	56	Ins. 1 1/2	Ins. 3	4	Ins. 7 1/8	Ins. 40 1/4	Ins. 7	Ins. 15	Ins. 23	Ins. 58	Ins. 74	Ins. 115	Ins. 3 1/2	Ins. 2	1,500	Ins. 57	Ins. 13 1/2	38,000 to 50,000
8	Ins. 18	Ins. 30 1/4	Ins. 34 1/2	Ins. 41	Ins. 2 1/2	Ins. 23	56	Ins. 1 1/2	Ins. 3	4	Ins. 7 1/8	Ins. 40 1/4	Ins. 7	Ins. 15	Ins. 23	Ins. 61	Ins. 77	Ins. 127	Ins. 3 1/2	Ins. 2	1,550	Ins. 57	Ins. 13 1/2	42,000 to 55,000
9	Ins. 18	Ins. 34 1/2	Ins. 38 1/2	Ins. 36	Ins. 2 1/2	Ins. 18	85	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 44 1/2	Ins. 8	Ins. 18	Ins. 25	Ins. 58	Ins. 74	Ins. 141	Ins. 4	Ins. 2 1/2	1,600	Ins. 61	Ins. 15 1/2	47,000 to 62,000
10	Ins. 18	Ins. 34 1/2	Ins. 38 1/2	Ins. 39	Ins. 2 1/2	Ins. 21	85	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 44 1/2	Ins. 8	Ins. 18	Ins. 25	Ins. 61	Ins. 77	Ins. 158	Ins. 4	Ins. 2 1/2	1,700	Ins. 61	Ins. 15 1/2	53,000 to 70,000
11	Ins. 18	Ins. 34 1/2	Ins. 38 1/2	Ins. 42	Ins. 2 1/2	Ins. 24	85	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 44 1/2	Ins. 8	Ins. 18	Ins. 25	Ins. 64	Ins. 80	Ins. 174	Ins. 4	Ins. 2 1/2	1,750	Ins. 61	Ins. 15 1/2	58,000 to 80,000
12	Ins. 18	Ins. 34 1/2	Ins. 38 1/2	Ins. 45	Ins. 2 1/2	Ins. 27	85	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 44 1/2	Ins. 8	Ins. 18	Ins. 25	Ins. 67	Ins. 83	Ins. 190	Ins. 4	Ins. 2 1/2	1,850	Ins. 61	Ins. 15 1/2	63,000 to 90,000
13	Ins. 18	Ins. 34 1/2	Ins. 38 1/2	Ins. 48	Ins. 2 1/2	Ins. 30	85	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 44 1/2	Ins. 8	Ins. 18	Ins. 25	Ins. 70	Ins. 86	Ins. 206	Ins. 4	Ins. 2 1/2	1,950	Ins. 61	Ins. 15 1/2	68,000 to 100,000
14	Ins. 18	Ins. 34 1/2	Ins. 38 1/2	Ins. 51	Ins. 2 1/2	Ins. 33	85	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 44 1/2	Ins. 8	Ins. 18	Ins. 25	Ins. 73	Ins. 89	Ins. 222	Ins. 4	Ins. 2 1/2	2,000	Ins. 61	Ins. 15 1/2	74,000 to 110,000
15	Ins. 18	Ins. 34 1/2	Ins. 38 1/2	Ins. 54	Ins. 2 1/2	Ins. 36	85	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 44 1/2	Ins. 8	Ins. 18	Ins. 25	Ins. 76	Ins. 92	Ins. 237	Ins. 4	Ins. 2 1/2	2,050	Ins. 61	Ins. 15 1/2	79,000 to 115,000
16	Ins. 21	Ins. 41 1/2	Ins. 45 1/2	Ins. 48	Ins. 2 1/2	Ins. 27	109	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 51 1/2	Ins. 8	Ins. 19	Ins. 27	Ins. 72	Ins. 89	Ins. 251	Ins. 4 to 5	Ins. 3	2,300	Ins. 68	Ins. 18 1/2	84,000 to 125,000
17	Ins. 21	Ins. 41 1/2	Ins. 45 1/2	Ins. 51	Ins. 2 1/2	Ins. 30	109	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 51 1/2	Ins. 8	Ins. 19	Ins. 27	Ins. 75	Ins. 92	Ins. 272	Ins. 4 to 5	Ins. 3	2,400	Ins. 68	Ins. 18 1/2	90,000 to 135,000
18	Ins. 21	Ins. 41 1/2	Ins. 45 1/2	Ins. 54	Ins. 2 1/2	Ins. 33	109	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 51 1/2	Ins. 8	Ins. 19	Ins. 27	Ins. 78	Ins. 95	Ins. 292	Ins. 4 to 5	Ins. 3	2,500	Ins. 68	Ins. 18 1/2	97,000 to 145,000
19	Ins. 21	Ins. 41 1/2	Ins. 45 1/2	Ins. 57	Ins. 2 1/2	Ins. 36	109	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 51 1/2	Ins. 8	Ins. 19	Ins. 27	Ins. 81	Ins. 98	Ins. 313	Ins. 4 to 5	Ins. 3	2,550	Ins. 68	Ins. 18 1/2	105,000 to 160,000
20	Ins. 21	Ins. 41 1/2	Ins. 45 1/2	Ins. 60	Ins. 2 1/2	Ins. 39	109	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 51 1/2	Ins. 8	Ins. 19	Ins. 27	Ins. 84	Ins. 101	Ins. 334	Ins. 4 to 5	Ins. 3	2,650	Ins. 68	Ins. 18 1/2	112,000 to 168,000
21	Ins. 21	Ins. 41 1/2	Ins. 45 1/2	Ins. 63	Ins. 2 1/2	Ins. 42	109	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 51 1/2	Ins. 8	Ins. 19	Ins. 27	Ins. 87	Ins. 104	Ins. 355	Ins. 4 to 5	Ins. 3	2,700	Ins. 68	Ins. 18 1/2	118,000 to 175,000
22	Ins. 21	Ins. 41 1/2	Ins. 45 1/2	Ins. 66	Ins. 2 1/2	Ins. 45	109	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 51 1/2	Ins. 8	Ins. 19	Ins. 27	Ins. 90	Ins. 107	Ins. 376	Ins. 4 to 5	Ins. 3	2,850	Ins. 68	Ins. 18 1/2	126,000 to 185,000
23	Ins. 21	Ins. 41 1/2	Ins. 45 1/2	Ins. 69	Ins. 2 1/2	Ins. 48	109	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 51 1/2	Ins. 8	Ins. 19	Ins. 27	Ins. 93	Ins. 110	Ins. 396	Ins. 4 to 5	Ins. 3	2,900	Ins. 68	Ins. 18 1/2	132,000 to 200,000
24	Ins. 21	Ins. 41 1/2	Ins. 45 1/2	Ins. 72	Ins. 2 1/2	Ins. 51	109	Ins. 1 1/2	Ins. 3	4	Ins. 8	Ins. 51 1/2	Ins. 8	Ins. 19	Ins. 27	Ins. 96	Ins. 113	Ins. 417	Ins. 4 to 5	Ins. 3	2,950	Ins. 68	Ins. 18 1/2	140,000 to 210,000

ONE INCH VERTICAL RADIATOR.

Furnished with Iron or Marble Top. Painted and Ornamented In any Style desired.



THREE TUBES WIDE.

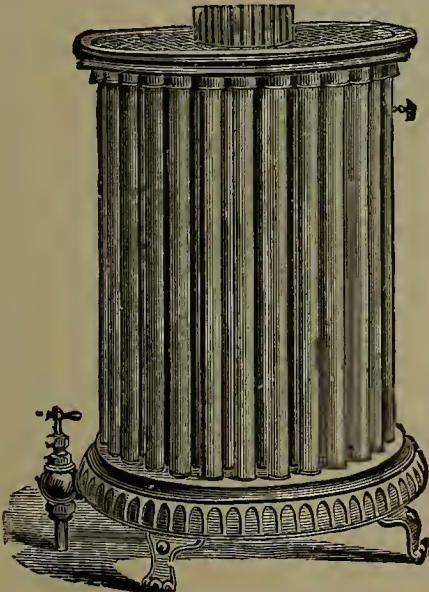
Number of Tubes	12	18	24	30	36
Height of Radiator, inches.....	37	37	37	37	37
Length of Base, without valve.....	12	15 ¹ / ₄	20	24 ³ / ₄	29 ¹ / ₂
Width of Base.....	9	9	9	9	9

FOUR TUBES WIDE.

Number of Tubes.....	40	48	56	64	72	80	88	96	104	112	120
Height of Radiator, inches.....	38	38	38	38	38	38	38	38	38	38	38
Length of Radiator without valve, inches.....	24 ³ / ₄	29 ¹ / ₂	34 ¹ / ₄	39 ¹ / ₂	43 ¹ / ₂	48	53 ¹ / ₄	58	62 ¹ / ₄	67	72
Width of Base.....	12	12	12	12	12	12	12	12	12	12	12

No 1 ROUND RADIATOR.

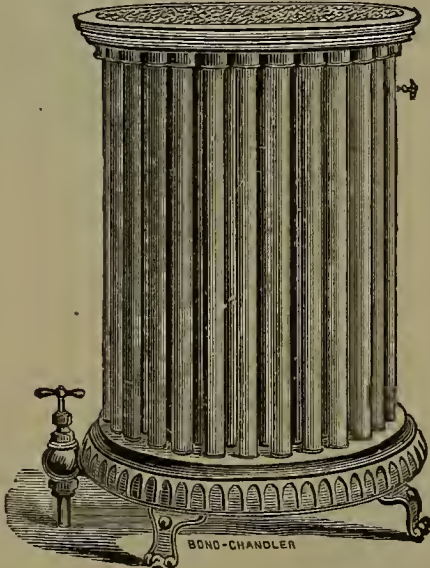
To place around Columns in Stores and Office Buildings.



No. 1 — No. of Tubes, 140.

No. 2 ROUND RADIATOR.

For General Use.



No. 2 — No. of Tubes, 34-60.

PRICES ON APPLICATION.

IRON PIPE COILS.

Ornamental Box Coil.

FOR SIZES SEE TABLE, PAGE 63.

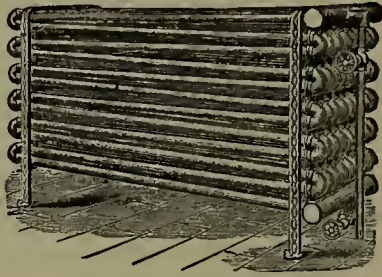


Fig. 88.

Plain Box Coil.

FOR SIZES SEE TABLE, PAGE 63.

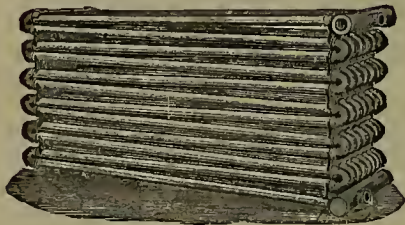


Fig. 89.

Ornamental Bracket Coil.

ONE AND TWO TUBES WIDE.

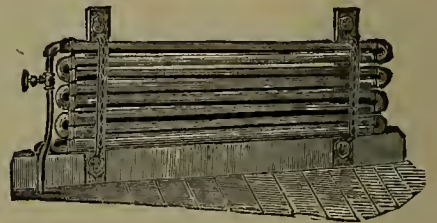


Fig. 90.

PATENT IMPROVED STEAM TRAPS.

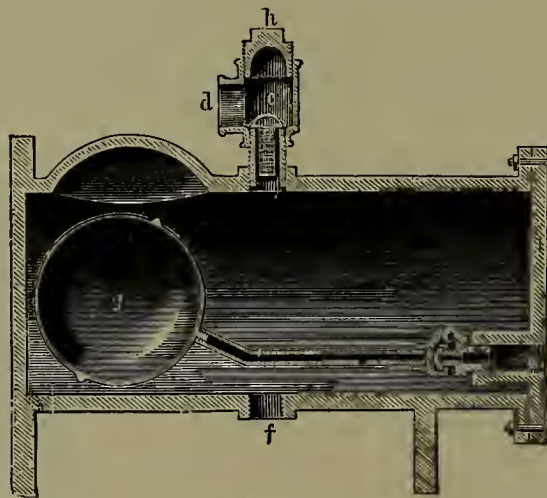


Fig. 90½.

SIZE.		DRAINING CAPACITY.	PRICE, EACH.
No. 1.....		1,500 feet of 1-inch pipe.	\$25 00
" 2.....		4,000 " " "	35 00
" 3.....		10,000 " " "	65 00

STEAM TRAPS.



Fig. 91.

SIZE.		DRAINING CAPACITY.	PRICE, EACH.
12-inch.....		1,500 feet of 1-inch pipe.	\$23 00
15-inch.....		3,500 " " "	36 00
18-inch.....		5,000 " " "	54 00

TABLE OF NUMBERS AND SIZES
OF
ONE-INCH BOX COILS.

NUMBER OF COILS.	FEET OF PIPE IN COIL.	LENGTH OF COIL, INCHES.	NUMBER OF PIPES WIDE.	NUMBER OF PIPES HIGH.	NUMBER OF COILS.	FEET OF PIPE IN COIL.	LENGTH OF COIL, INCHES.	NUMBER OF PIPES WIDE.	NUMBER OF PIPES HIGH.	NUMBER OF COILS.	FEET OF PIPE IN COIL.	LENGTH OF COIL, INCHES.	NUMBER OF PIPES WIDE.	NUMBER OF PIPES HIGH.	NUMBER OF COILS.	FEET OF PIPE IN COIL.	LENGTH OF COIL, INCHES.	NUMBER OF PIPES WIDE.	NUMBER OF PIPES HIGH.
1	56	39	3	6	26	156	39	6	8	51	250	50	6	10	76	368	46	8	12
2	58	41	3	6	27	164	41	6	8	52	250	60	5	10	77	375	50	9	10
3	61	32	4	6	28	166	50	4	10	53	250	50	5	12	78	392	46	10	10
4	69	46	3	6	29	167	50	5	8	54	266	50	8	8	79	395	74	8	8
5	75	37 $\frac{1}{4}$	4	6	30	170	50	5	10	55	269	46	7	10	80	400	60	8	10
6	78	39	4	6	31	175	37 $\frac{1}{2}$	7	8	56	273	41	8	10	81	400	88	7	8
7	82	41	4	6	32	182	39	7	8	57	276	46	6	12	82	400	50	8	12
8	92	46	4	6	33	184	46	6	8	58	280	60	7	8	83	414	46	9	12
9	94	37 $\frac{1}{2}$	5	6	34	191	41	7	8	59	287	41	7	12	84	417	50	10	10
10	97	39	5	6	35	192	46	5	10	60	292	50	7	10	85	420	60	7	12
11	100	50	4	6	36	200	37 $\frac{1}{2}$	8	8	61	296	74	6	8	86	432	74	7	10
12	100	37 $\frac{1}{2}$	4	8	37	200	60	5	8	62	300	60	6	10	87	440	88	6	10
13	102	41	5	6	38	200	60	4	10	63	300	60	5	12	88	444	74	6	12
14	104	39	4	8	39	200	50	6	8	64	306	46	8	10	89	450	60	9	10
15	109	41	4	8	40	205	41	6	10	65	308	74	5	10	90	450	50	9	12
16	115	46	5	6	41	209	50	5	10	66	320	60	8	8	91	460	46	10	12
17	123	46	4	8	42	215	46	7	8	67	322	46	7	12	92	470	88	8	8
18	125	50	5	6	43	219	41	8	8	68	333	50	8	10	93	480	60	8	12
19	125	37 $\frac{1}{2}$	5	8	44	230	46	6	10	69	345	74	7	8	94	493	74	8	10
20	130	39	5	8	45	230	46	5	12	70	345	46	9	10	95	500	60	10	10
21	134	50	4	8	46	233	50	7	8	71	350	60	7	10	96	500	50	10	12
22	137	41	5	8	47	239	41	7	10	72	350	50	7	12	97	513	88	7	10
23	150	37 $\frac{1}{2}$	6	8	48	240	60	6	8	73	352	88	6	8	98	518	74	7	12
24	153	46	4	10	49	245	46	8	8	74	360	74	6	10	99	540	60	9	12
25	153	46	5	8	50	246	41	6	12	75	360	60	6	12	100	555	74	9	10

NUMBER OF PIPES WIDE.

Coils 3 pipes wide are 8 inches in width.	Coils 7 pipes wide are 18 inches in width.
" 4 " " " 10 $\frac{1}{2}$ " "	" 8 " " " 20 $\frac{1}{2}$ " "
" 5 " " " 13 " "	" 9 " " " 23 " "
" 6 " " " 15 $\frac{1}{2}$ " "	" 10 " " " 25 $\frac{1}{2}$ " "

NUMBER OF PIPES HIGH.

Coils 6 pipes high, 4 feet long or less, are.....	22 inches high.
" 8 " " " " " " "	27 " "
" 10 " " " " " " "	32 " "
" 12 " " " " " " "	37 " "
" 6 " " over 4 feet long, are.....	25 " "
" 8 " " " " " " "	31 " "
" 10 " " " " " " "	37 " "
" 12 " " " " " " "	43 " "

CREAMER'S PATENT LEVER REGISTERS.



Fig. 94.

SIZE OF OPENING.	REGISTERS.					FACES.		
	Black or White Japanned.	White Porcelain Enameled.	Gold or Copper Bronzed.	Nickel or Electro Copper.	Without Valves.	Black or White Japanned.	White Porcelain Enameled.	Nickel Plated.
4½ x 6½....	\$1 30	\$2 75	\$1 80	\$2 95	\$0 90	\$0 46	\$1 90	\$2 10
4 x 8.....	1 50	3 00	2 00	3 25	1 00	48	2 00	2 20
4 x 10.....	1 65	3 25	2 18	3 50	1 15	50	2 10	2 30
4 x 12.....	2 00	3 50	2 30	4 00	1 50	65	2 40	2 50
4 x 15.....	2 30	4 00	2 85	4 25	1 60	75	2 60	2 75
4 x 16.....	2 35	4 25	3 00	4 50	1 75	85	2 75	3 00
4 x 18.....	2 50	4 50	3 10	4 80	1 75	85	2 85	3 20
6 x 8.....	1 80	3 50	2 30	3 75	1 20	62	2 30	2 60
6 x 9.....	1 95	3 65	2 50	3 95	1 30	66	2 40	2 70
6 x 10.....	2 10	3 80	2 65	4 10	1 45	70	2 50	2 80
6 x 14.....	2 70	4 60	3 25	5 00	1 95	90	2 80	3 10
6 x 16.....	3 00	5 00	3 60	5 40	2 10	1 10	3 20	3 30
6 x 18.....	3 40	5 45	4 10	5 85	2 40	1 35	3 40	3 60
6 x 24.....	6 36	9 50	7 40	10 00	4 25	2 15	5 50	6 00
7 x 10.....	2 30	4 25	2 90	4 50	1 60	75	2 60	2 90
8 x 8.....	2 25	4 20	2 80	4 50	1 50	80	2 75	2 90
8 x 10.....	2 50	4 50	3 10	4 85	1 75	85	2 85	3 10
8 x 12.....	2 80	4 80	3 45	5 20	2 00	1 00	3 00	3 25
8 x 14.....	3 50	5 60	4 15	6 00	2 45	1 30	3 50	3 75
8 x 15.....	3 60	5 75	4 35	6 15	2 55	1 50	3 60	3 90
8 x 18.....	4 20	6 50	5 00	6 95	3 05	1 75	4 05	4 60
9 x 9.....	2 65	4 65	3 25	5 00	1 85	1 00	3 00	3 25
9 x 10.....	3 00	5 00	3 75	5 50	2 00	1 12	3 12	3 40
9 x 12.....	3 30	5 30	4 00	5 70	2 35	1 25	3 25	3 75
9 x 14.....	3 60	5 75	4 35	6 20	2 55	1 50	3 65	4 00
10 x 10.....	3 25	5 25	3 90	5 65	2 30	1 20	3 20	3 60
10 x 12.....	3 60	5 75	4 35	6 15	2 55	1 50	3 60	4 00
10 x 14.....	4 00	6 20	4 80	6 65	2 86	1 75	4 00	4 40
10 x 16.....	4 50	6 75	5 30	7 25	3 25	2 00	4 30	4 75
10½ x 16½....	4 85	7 10	5 70	7 60	3 50	2 10	4 35	4 80
12 x 12.....	4 20	6 50	5 00	6 95	3 05	1 75	4 05	4 50
12 x 15.....	5 00	7 40	5 85	7 90	3 70	2 00	4 40	4 80
12 x 17.....	5 50	7 95	6 40	8 50	4 10	2 25	4 70	.....
12 x 18.....	5 75	8 25	6 75	9 00	4 40	2 35	4 85	5 30
12 x 19.....	6 00	8 50	6 90	9 10	4 50	2 50	5 00	5 50
12 x 24.....	7 50	10 75	8 50	11 00	5 00	3 00	6 00	.....
14 x 14.....	6 00	8 50	6 90	9 10	4 50	2 50	5 00	.....
14 x 18.....	7 00	10 00	8 00	10 75	5 00	2 80	5 70	.....
14 x 22.....	8 00	11 25	9 00	12 25	5 50	3 10	6 35	6 90
15 x 25.....	10 00	14 20	12 00	15 20	7 20	4 75	9 00	9 60
16 x 16.....	7 50	10 25	8 50	11 00	5 00	3 00	5 75	6 50
16 x 20.....	8 50	11 50	9 40	12 50	6 30	4 00	7 00	8 00
16 x 24.....	10 50	14 75	12 50	15 85	7 65	5 00	9 25	10 50
20 x 20.....	10 50	14 75	12 50	15 85	7 65	5 00	9 25	10 50
20 x 26.....	13 50	20 00	15 50	22 25	9 75	6 00	13 00	14 50
21 x 29.....	17 00	23 75	19 25	26 00	12 00	7 00	14 00	.....
27 x 27.....	24 00	.....	.....	.....	17 50	10 25	.....	.....
24 x 32.....	24 00	.....	.....	.....	18 00	12 00	.....	.....
27 x 38.....	28 00	.....	.....	.....	20 00	12 00	.....	.....
30 x 30.....	26 00	.....	.....	38 00	18 50	11 25	.....	.....

Creamer's Patent Lever Registers.—CONTINUED.

ROUND REGISTERS.

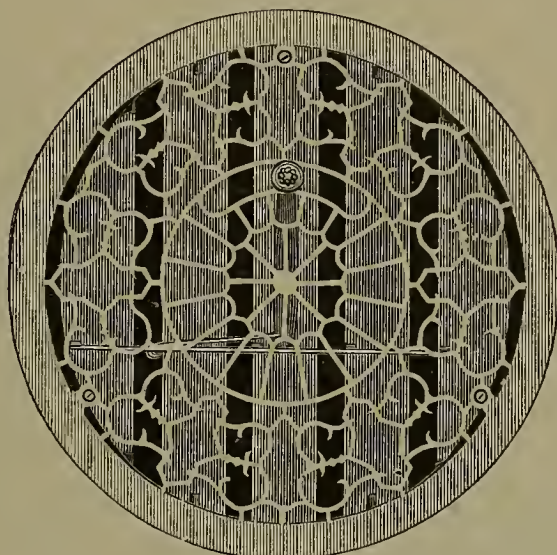


Fig. 95.

SIZE OF OPENING.	Best Black or White Japanned.	White Porcelain Enameled.	Gold or Copper Bronzed.	Nickel or Copper Plated.	Without Valves.	Faces White Enameled.	Faces White or Black Japanned.
6.....	\$1 30	\$3 00	\$1 80	\$3 25	\$0 90	\$2 20	\$0 50
7.....	1 50	3 20	2 00	3 50	1 00	2 30	60
8.....	1 80	3 50	2 25	3 80	1 15	2 35	65
9.....	2 00	4 00	2 55	4 35	1 30	2 75	75
10.....	2 50	4 50	3 10	4 90	1 55	2 90	90
12.....	3 30	5 50	4 00	5 95	2 00	3 40	1 20
14.....	4 50	6 75	5 20	7 25	2 55	3 90	1 65
16.....	5 75	8 25	6 50	8 80	3 40	4 70	2 20
18.....	7 50	10 00	8 30	10 60	4 25	5 25	2 75
20.....	9 00	12 00	10 00	12 70	5 75	6 25	3 20
24.....	12 00	16 00	13 50	17 00	8 50	9 00	5 00

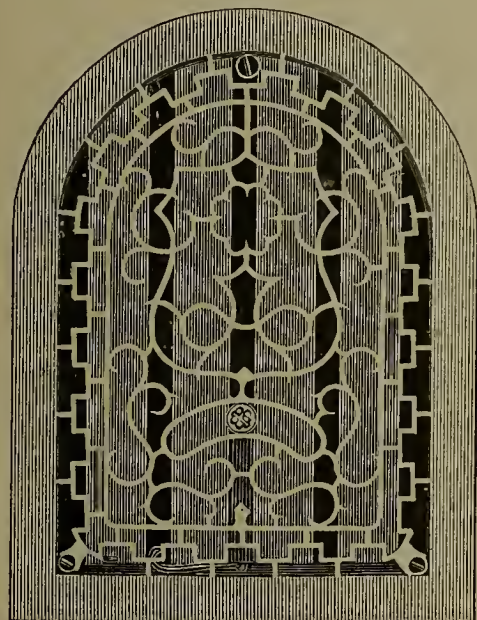


Fig. 96.

CIRCULAR TOP REGISTERS.

SIZE OF OPENING.		Black or White Japanned.	White Enameled.	Gold or Copper Bronzed.	Nickel or Copper Plated.	Register Face Japanned.	Register Face Enameled.
Width.	Height.						
7 x 10		\$2 25	\$4 25	\$2 85	\$4 50	\$0 90	\$2 60
8 x 12		2 95	5 00	3 60	5 35	1 15	3 20
8 x 14		3 40	5 40	4 10	5 75	1 30	3 30
9 x 12		3 40	5 40	4 10	5 75	1 30	3 30
10 x 14		4 10	6 30	4 90	6 70	1 75	3 95
11 x 16		4 60	7 00	5 40	7 40	1 90	4 30
12 x 17		5 20	8 00	6 05	8 50	2 00	4 80
11 x 13		3 55	5 75	4 35	6 15	1 55	3 75
13 x 15		4 60	7 00	5 45	7 45	1 75	4 15
16 x 17		6 50	9 25	7 50	9 85	2 50	5 25
13 x 11		3 55	5 75	4 35	6 15	1 55	3 75
15 x 13		4 60	7 00	5 45	7 45	1 75	4 15
17 x 16		6 50	9 25	7 50	9 85	2 50	5 25

IRON BORDER FRAMES.

SIZE FOR REGISTER OPENING.	BLACK JAPPANED.	WHITE PORCELAIN ENAMELED.	GOLD BRONZED.	NICKEL PLATED.
4½ x 6½ .....	....	....	....	....
4 x 8 .....	....	....	....	....
4 x 10 .....	....	....	....	....
4 x 12 .....	....	....	....	....
4 x 15 .....	....	....	....	....
4 x 16 .....	....	....	....	....
4 x 18 .....	....	....	....	....
6 x 8	\$0 80	\$2 50	\$1 00	\$2 80
6 x 9	90	2 60	1 10	2 90
6 x 10	1 00	2 70	1 20	3 00
6 x 14	1 20	3 10	1 50	3 40
6 x 16	1 30	3 28	1 63	3 60
6 x 18	1 40	3 45	1 75	3 80
6 x 24	2 50	5 00	3 00	5 50
7 x 10	1 10	3 05	1 30	3 40
8 x 8	1 05	3 00	1 30	3 30
8 x 10	1 15	3 15	1 40	3 50
8 x 12	1 25	3 25	1 50	3 60
8 x 14	1 40	3 55	1 70	3 90
8 x 15	1 45	3 60	1 80	4 00
8 x 18	1 65	4 00	2 00	4 40
9 x 9	1 15	3 15	1 40	3 50
9 x 10	1 20	3 25	1 50	3 60
9 x 12	1 30	3 35	1 65	3 70
9 x 14	1 40	3 55	1 76	3 90
10 x 10	1 30	3 30	1 60	3 65
10 x 12	1 45	3 60	1 75	4 00
10 x 14	1 55	3 75	1 95	4 15
10 x 16	1 65	3 90	2 12	4 30
10½ x 16½	1 75	4 00	2 18	4 45
12 x 12	1 60	3 90	2 00	4 30
12 x 15	1 75	4 15	2 12	4 60
12 x 17	2 05	4 50	2 45	5 00
12 x 18	2 20	4 60	2 65	5 25
12 x 19	2 30	4 80	2 75	5 40
12 x 24	2 75	6 00	3 25	6 85
14 x 14	2 30	4 80	2 75	5 40
14 x 18	2 70	5 55	3 15	6 35
14 x 22	3 00	6 25	3 50	7 25
15 x 25	4 15	8 35	4 75	9 40
16 x 16	3 00	5 75	3 50	6 65
16 x 20	3 75	6 75	4 25	7 75
16 x 24	4 35	8 60	5 00	9 75
20 x 20	4 35	8 60	5 00	9 75
20 x 26	5 45	12 00	6 25	14 25
21 x 29	6 00	13 00	7 00	....
27 x 27	7 00	....	8 00	....
24 x 32	7 00	....	8 00	....
27 x 38	8 00	....	9 50	....
30 x 30	7 00	...	8 00	....

IRON ROUND BORDER FRAMES.

SIZE OF OPENING.	NICKEL OR COPPER PLATED.	WHITE PORCELAIN ENAMELED.	GOLD OR COPPER BRONZED.	BLACK JAPPANED.
6	\$2 70	\$2 45	\$0 95	\$0 75
7	2 90	2 60	1 05	0 85
8	3 05	2 75	1 20	1 00
9	3 35	3 00	1 35	1 10
10	3 70	3 30	1 60	1 30
12	4 15	3 70	1 90	1 55
14	4 70	4 20	2 35	1 95
16	5 55	5 00	3 00	2 50
18	6 60	6 00	3 80	3 25
20	8 00	7 25	4 90	4 25
24 .....	....	....	6 50	5 50

AIR PUMP.

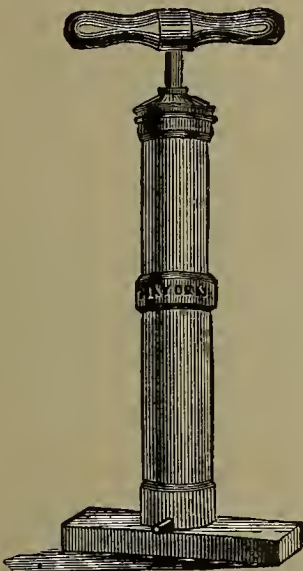


Fig. 123.

GAS PROVING PUMP.

With Mercury Gauge.

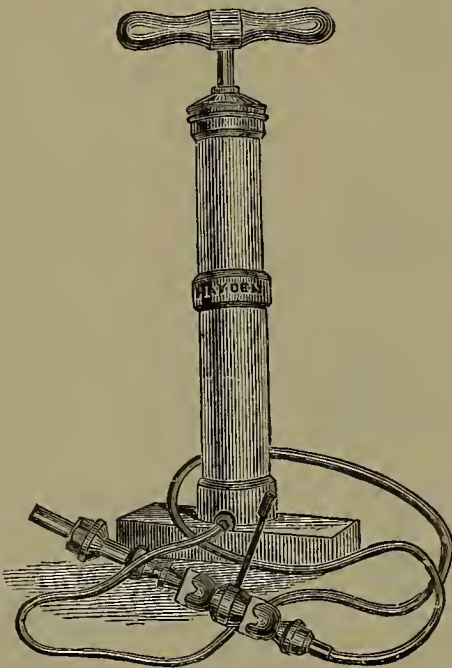


Fig. 124.

Price each.....	\$12 00	Price each.....	\$22.00
		Mercury Gauge, extra.....	10.00

GAS PROVING PUMP.

With Air Gauge.

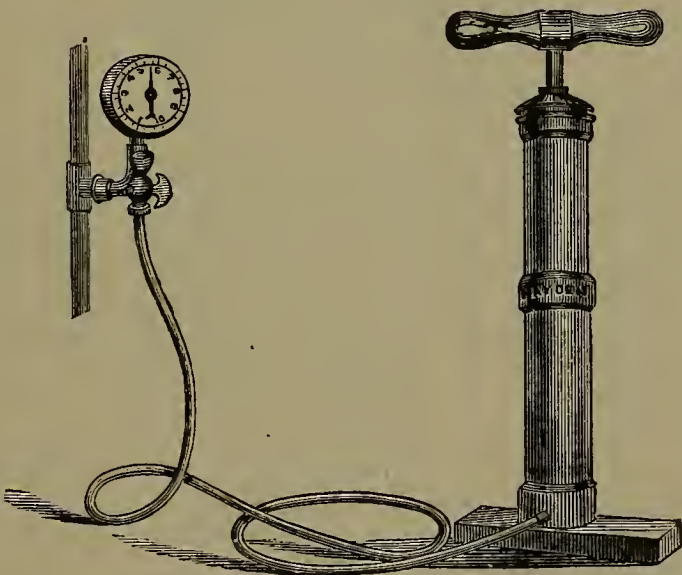


Fig. 125.

Price each.....	\$20.00
✓ Ether Cup, extra.....	2.50

GAS SERVICE COCKS—BRASS.



Fig. 105.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Price, each .....	.50	.60	.70	.95	1.20	1.80	2.60	4.25
Price, Heavy, with Stop, each .....			.85	1.35	2.15	3.15	4.00	5.75
Price, Male and Female, each.....			.80	1.15	1.50	2.20	3.20	5.00



Fig. 106.

GAS METER COCKS—BRASS.

Size, inches....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Price, each.....	.60	.70	.80	1.15	1.50	2.20	3.20	5.00



Fig. 107.

UNION METER COCKS—BRASS.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Price, each.....	1.00	1.25	1.85	2.80	4.00	6.00



Fig. 108.
PILLAR COCK.



Fig. 109.
PENDANT COCK.



Fig. 110.
ELBOW PENDANT COCK.



Fig. 111.
LAMP POST COCK.



Fig. 112.
STREET LAMP COCK, WITH KEY.



Fig. 113.
ELBOW BURNER COCK.



Fig. 114.
SIDE NOZZLE.



Fig. 115.
END NOZZLE.



Fig. 116.
SWING JOINT.



Fig. 117.
UNION SWING JOINT.



Fig. 118.
SWING JOINT WITH COCK.



Fig. 119.
SWING PENDANT COCK.



Fig. 120.
DOUBLE CENTER.



Fig. 121.
ALCOHOL CUP.



Fig. 122.
ETHER CUP.

GAS FIXTURE COCKS.

Size, inches.....	$\frac{1}{8} \times \frac{1}{8}$	$\frac{1}{8} \times \frac{1}{4}$	$\frac{1}{8} \times \frac{1}{2}$	$\frac{1}{8} \times \frac{3}{8}$	$\frac{1}{8} \times \frac{1}{2}$	$\frac{1}{8} \times \frac{3}{4}$	$\frac{1}{4} \times \frac{1}{4}$	$\frac{1}{4} \times \frac{1}{2}$	$\frac{3}{8} \times \frac{1}{4}$	$\frac{3}{8} \times \frac{3}{8}$	$\frac{1}{2} \times \frac{1}{2}$
Fig. 108, Pillar Cock .....	.45	.50	.60	.70							
Fig. 109, Pendant Cock.....	.40						.40		.45	.55	
Fig. 110, Elbow Pendant Cock.....	.45						.45		.50	.60	
Fig. 111, Lamp Post Cock.....		.50	.60	.70	.80						
Fig. 112, Street Lamp Cock, with Key.....		.80	.90	1.00	1.10						
Fig. 113, Elbow Burner Cock.....	.50						.60		.70		
Fig. 114, Side Nozzle.....	.15						.20		.25		
Fig. 115, End Nozzle.....	.10						.15		.20		
Fig. 116, Swing Joint.....	.45				.45	.45		.50	.60		
Fig. 117, Union Swing Joint.....	.65				.65	.65	.75				
Fig. 118, Swing Joint, with Cock .....						.65		.75	.90		
Fig. 119, Swing Pendant Cock.....						.75		.85	1.00		
Fig. 120, Double Center.....						.80		.95	1.10		
Fig. 121, Alcohol Cup.....								.90			
Fig. 122, Ether Cup								2.50			

PLUMBERS' BRASS GOODS.

PLAIN BIBBS.

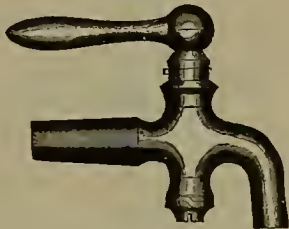


Fig. 126.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Finished, per doz.....	9.00	11.00	14.50	18.00	24.00	36.00	54.00	84.00	170.00
Price, Nickel Plated, per doz.....	11.00	13.00	17.00	20.50	26.50	39.00	.....	.....	.....
Price, Silver Plated, per doz.....	16.00	18.50	23.50	30.00	39.00	62.00	.....	.....	.....

HOSE BIBBS.



Fig. 127.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Price, Finished, per doz.....	12.00	15.50	19.00	26.00	39.00	58.00	90.00	180.00	290.00
Price, Nickel Plated, per doz.....	14.00	18.00	21.50	28.50	42.00	.....	.....	.....	.....
Price, Silver Plated, per doz.....	19.50	24.50	31.00	41.00	65.00	.....	.....	.....	.....

PLAIN BIBBS, FOR IRON PIPE.



Fig. 128.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Rough, per doz.....	9.00	11.00	14.00	17.00	23.00	35.00	50.00	78.00	160.00
Price, Finished, per doz.....	10.00	12.00	15.50	19.00	26.00	39.00	58.00	90.00	180.00
Price, Nickel Plated, per doz.....	12.00	14.00	18.00	21.50	28.50	42.00	.....	.....	.....
Price, Silver Plated, per doz.....	17.00	19.50	24.50	31.00	41.00	65.00	.....	.....	.....

HOSE BIBBS, FOR IRON PIPE.

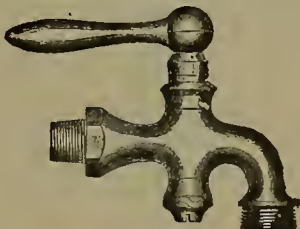


Fig. 129.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Rough, per doz.....	15.00	18.00	25.00	38.00	54.00	84.00	170.00
Price, Finished, per doz.....	16.50	20.00	28.00	42.00	62.00	96.00	190.00

ROUGH STOP, T HANDLE, RIVET.



Fig. 130.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Plain, per doz.....	6.00	8.00	10.00	12.00	16.00	24.00	40.00	60.00	100.00
Price, with Check and Waste, per doz..	6.00	8.00	10.00	12.00	16.00	24.00	40.00	60.00	100.00

ROUGH STOP, T HANDLE, NUT AND WASHER.



Fig. 131.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3
Price, Plain, per doz..	7.00	9.00	11.00	13.00	17.50	26.00	43.00	64.00	110.00	175.00	250.00	350.00
Check & Waste, doz.	8.00	10.00	12.00	14.00	19.00	28.00	46.00	68.00	120.00	190.00	270.00	375.00

ROUGH STOP, T HANDLE, NUT AND WASHER.

For Lead and Iron Pipe.



Fig. 132.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, Plain, per doz.....	7.50	9.50	11.50	13.50	18.00	27.00	44.50	66.00	115.00	260.00	365.00
Check & Waste, per doz..	8.50	10.50	12.50	14.50	19.50	29.00	47.50	70.00	125.00	280.00	390.00

ROUGH STOP, T HANDLE, NUT AND WASHER.

Screwed for Iron Pipe.



Fig. 133.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, Plain, per doz.....	8.00	10.00	12.00	14.00	19.00	28.00	46.00	68.00	120.00	270.00	375.00
Check & Waste, per doz..	9.00	11.00	13.00	15.00	20.50	30.00	49.00	72.00	130.00	290.00	400.00

Rough Stop, T Handle, Nut and Washer, Screwed Outside and Inside, for Iron Pipe.



Fig. 134.

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1 in.	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, Plain, per doz.	8.00	10.00	12.00	14.00	19.00	28.00	46.00	68.00	120.00	270.00	375.00
With Check and Waste.	9.00	11.00	13.00	15.00	20.50	30.00	49.00	72.00	130.00	290.00	400.00

ROUGH STOP, LEVER HANDLE.



Fig. 135.

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1 in.	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	3
Price, Plain, per doz.	7.00	9.00	11.00	13.00	17.50	26.00	43.00	64.00	85.00	110.00	250.00	350.00
With Check and Waste.	8.00	10.00	12.00	14.00	19.00	28.00	46.00	68.00	93.00	120.00	270.00	375.00

ROUGH STOP, LEVER HANDLE, FOR LEAD AND IRON PIPE.



Fig. 136.

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1 in.	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, Plain, per doz.	7.50	9.50	11.50	13.50	18.50	27.00	44.50	66.00	115.00	260.00	365.00
With Check and Waste.	8.50	10.50	12.50	14.50	20.00	29.00	47.50	70.00	125.00	280.00	390.00

ROUGH STOP, LEVER HANDLE, SCREWED FOR IRON PIPE.



Fig. 137.

Size, inches.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1 in.	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, Plain, per doz.	8.00	10.00	12.00	14.00	19.00	28.00	46.00	68.00	120.00	270.00	375.00
With Check and Waste.	9.00	11.00	13.00	15.00	20.50	30.00	49.00	72.00	130.00	290.00	400.00

ROUGH STOP, T HANDLE, ROUND WAY, NUT AND WASHER.



Fig. 138.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Price, Plain, per doz.....	13.00	15.00	17.00	23.00	36.00	54.00	84.00	140.00	180.00
With Check and Waste, per doz..	14.00	16.00	18.00	24.50	38.00	57.00	88.00	148.00	190.00

Rough Stop, T Handle, Round Way, Nut and Washer, Screwed for Iron Pipe.



Fig. 139.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Plain, per doz.....	14.00	16.00	18.00	24.50	38.00	57.00	88.00	190.00
With Check and Waste, per doz..	15.00	17.00	19.00	26.00	40.00	60.00	92.00	200.00

ROUGH STOP, LEVER HANDLE, ROUND WAY.



Fig. 140.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Price, Plain, per doz.....	13.00	15.00	17.00	23.00	36.00	54.00	84.00	140.00	180.00
With Check and Waste, per doz..	14.00	16.00	18.00	24.50	38.00	57.00	88.00	148.00	190.00

Rough Stop, Lever Handle, Round Way, Screwed for Iron Pipe.



Fig. 141.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Plain, per doz.....	14.00	16.00	18.00	24.50	38.00	57.00	88.00	190.00
With Check and Waste, per doz.....	15.00	17.00	19.00	26.00	40.00	60.00	92.00	200.00

PLAIN STOP.

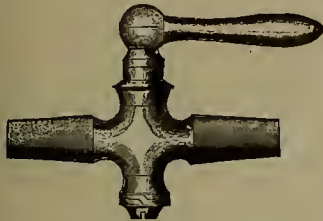


Fig. 142.

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Finished, per doz.	9.50	11.50	15.00	18.50	25 00	37.00	55.50	86.00	175.00
Nickel-plated, doz.	11.50	14.00	17.50	21.00	27.50	40.00	....	....	....
Silver-plated, doz.	17.00	19.00	27.00	30.50	40.00	63.00	....	....	....

PLAIN STOP, SCREWED FOR IRON PIPE.

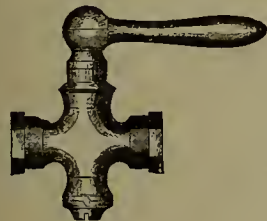


Fig 143.

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	10.50	12.50	16.00	19.50	26.50	39.00
Nickel-plated, per doz.	12.50	14.50	18.50	22.00	29.00	42.00
Silver-plated, per doz.	18.00	20.00	25.00	31.50	41.50	65.00

SHOWER BATH COCK.

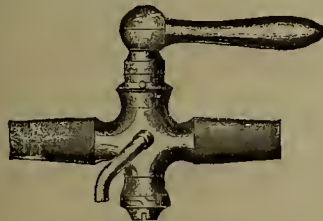


Fig. 144.

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	13.00	16.50	20.00	26.50	40.00
Nickel-plated, per doz.	15.00	19.00	22.50	29.00	43.00
Silver-plated, per doz.	20.50	25.50	32.00	41.50	66.00

SHOWER BATH COCK, SCREWED FOR IRON PIPE.



Fig. 145.

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	14.00	17.50	21.00	28.00	42.00
Nickel-plated, per doz.	16.00	20.00	23.50	30.50	45.00
Silver-plated, per doz.	21 50	26.50	33.00	43.00	68.00

HYDRANT COCK, RIVET.



Fig. 146.

Size, inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, per doz.....	10.50	13.00	17.50	26.00

HYDRANT COCK, NUT AND WASHER.



Fig. 147.

Size, inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, per doz.....	11.50	14.00	19.00	28.00

HYDRANT COCK, NUT AND WASHER.

For Lead and Iron Pipe.



Fig. 148.

Size, inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, per doz.....	12.00	14.50	20.00	29.00

HYDRANT COCK, NUT AND WASHER.

Screwed for Iron Pipe.



Fig. 149.

Size, inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, per doz.....	12.00	15.00	20.50	30.00

BALL COCK.



Fig. 150.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price per doz.....	9.00	11.00	14.00	18.00	28.00	46.00

BALL COCK, SCREWED FOR IRON PIPE.



Fig. 151.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price per doz.....	10.00	12.00	15.00	19.50	30.00	50.00

RAIN AND WELL WATER COCK.

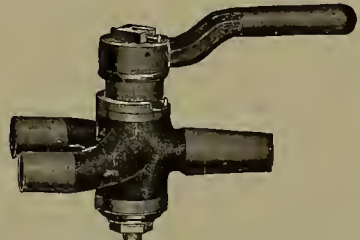


Fig. 152.

Size, inches.....	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price per doz.....	45.00	70.00	80.00	120.00	200.00

Corporation Stop, Screwed for Mueller Tapping Machine, Bent Coupling.

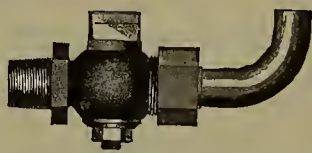


Fig. 153.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price per doz.....	12.00	14.00	18.00	27.00	42.00	96.00

CORPORATION STOP, BOTH ENDS SCREWED FOR IRON PIPE.



Fig. 154.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price per doz.....	10.00	12.00	15.00	23.00	36.00	80.00

ALE LOCK COCK.



Fig. 155

Price, Finished, per doz.\$24 00

LAGER BEER COCK.



Fig. 156.

Price, Finished, per doz.\$24 00

LAGER BEER COOLER COCK.



Fig. 157

Length, inches.....	14	16	18	20	22
Price, Finished, per doz.	32.00	36.00	40.00	44.00	48.00

LAGER BEER COOLER COCK.

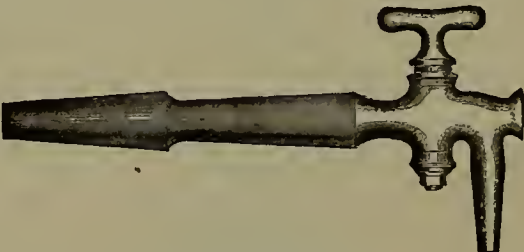


Fig. 158.

Length, inches.....	14	16	18	20	22
Price, Finished, per doz.	46.00	50.00	54.00	58.00	62.00

COOLER COCKS.



Fig. 159

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$
Price, Finished, per doz.....	5.00	5.50	7.00	9.00
Price, Nickel Plated, per doz.....	6.00	6.50	8.00	11.00
Price, Silver Plated, per doz.....	8.00	8.50	11.00	14.00

URN COCKS, DROP HANDLE.



Fig. 160.

Size, inches.....	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$
Price, Finished, per doz.....	28.00	30.00	32.00	36.00
Price, Nickel Plated, per doz.....	32.00	34.00	36.00	40.00
Price, Silver Plated, per doz.....	34.00	36.00	40.00	46.00

URN COCKS, IVORY HANDLE.



Fig 161

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$
Price, Finished, per doz.	14.00	15.00	17.00	25.00	28.00
Price, Nickel Plated, per doz.....	16.00	17.00	19.00	23.00	30.00
Price, Silver Plated, per doz.	18.00	19.00	21.00	25.00	32.00

RACKING COCK, TO DRIVE.



Fig. 162.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	5.00	7.50	10.00	14.50	17.00	30.00

RACKING COCK, TO SCREW.



Fig 163.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	5.50	8.50	11.00	16.00	19.00	32.50

LOCK COCK, TO DRIVE.



Fig. 164.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	6.50	8.50	12.00	16.50	20.00	35.00

LOCK COCK, TO SCREW.



Fig. 165.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	7.00	9.00	13.00	18.00	22.00	37.50

GLOBE COCK, LEVER HANDLE, TINNED END.



F'g. 166.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	9.00	11.00	14.50	18.00	24.00	36.00

GLOBE COCK, LEVER HANDLE, TO SCREW.



Fig. 167.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	9.50	11.75	15.50	19.50	26.00	38.50

KEROSENE COCK, TO SCREW.

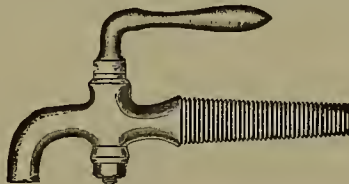


Fig 168.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Price, Finished, per doz.....	12.00	14.00	17.00	24.00

LIQUOR COCK, TO SCREW.

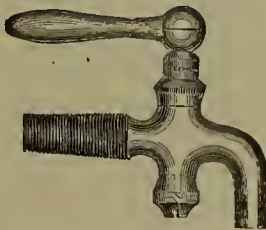


Fig. 169.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	12.75	15.00	18.50	26.00	42.50

**BASIN WASTE COCK.**

Price, Finished, each.....	6.00
Price, Nickel Plated, each.....	7.00
Price, Silver Plated, each.....	8.00

BATH WASTE COCK.

Price, Finished, each.....	8.00
Price, Nickel Plated, each.....	9.00
Price, Silver Plated, each	10.00

Fig. 170.

BRACKET BASIN COCK, PLAIN.

Fig. 171.

Price, Finished, per doz.....	18.00
Price, Nickel Plated, per doz.	22.00
Price, Silver Plated, per doz.....	26.00

BRACKET BASIN COCK, OCTAGON.

Fig. 172.

Price, Finished, per doz.....	30.00
Price, Nickel Plated, per doz.....	36.00
Price, Silver Plated, per doz.....	40.00

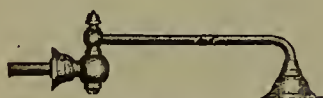
BRACKET SHAMPOOING COCK.

Fig. 173.

Price, Finished, per doz.....	24.00
Price, Nickel Plated, per doz.	28.00
Price, Silver Plated, per doz.....	32.00

BASIN COCKS.

Fig. 174.

Price, Finished, per doz.....	14.00
Price, Nickel Plated, per doz.....	17.00
Price, Silver Plated, per doz.....	24.00



Fig. 175.

Price, Finished, per doz.....	16.00
Price, Nickel Plated, per doz.....	19.00
Price, Silver Plated, per doz.....	26.00

COMPRESSION WORK.

COMPRESSION PLAIN BIBB.



Fig. 176.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Finished, per doz.....	9.00	10.00	12.00	18.00	34.00	52.00	80.00	160.00
Price, Nickel Plated, per doz..	11.00	12.50	14.50	20.50	37.00	.....	.....	.....
Price, Silver Plated, per doz...	16.50	19.00	24.00	33.00	60.00	.....	.....	.....

COMPRESSION HOSE BIBB.



Fig. 177.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Finished, per doz.....	10.00	11.00	13.00	20.00	37.00	56.00	86.00	170.00
Price, Nickel Plated, per doz..	12.00	13.50	15.50	22.50	40.00	.....	.....	.....
Price, Silver Plated, per doz...	17.50	20.00	25.00	35.00	63.00	.....	.....	.....

COMPRESSION PLAIN BIBB, SCREWED FOR IRON PIPE.—With Shoulder.



Fig. 178.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Finished, per doz.....	10.00	11.00	13.00	20.00	37.00	56.00	80.00	170.00
Price, Nickel Plated, per doz..	12.00	13.50	15.50	22.50	40.00	.....	.....	.....
Price, Silver Plated, per doz...	17.50	20.00	25.00	35.00	63.00	.....	.....	.....

COMPRESSION HOSE BIBB, SCREWED FOR IRON PIPE.
With Shoulder.



Fig. 179.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price, Finished, per doz.....	11.00	12.00	14.00	22.00	40.00	60.00	92.00	180.00
Price, Nickel Plated, per doz..	13.00	14.50	16.50	24.50	43.00	.....	.....	.....
Price, Silver Plated, per doz...	18.50	21.00	26.00	37.00	66.00	.....	.....	.....

COMPRESSION PLAIN BIBB, FLANGE AND THIMBLE.



Fig. 180.

Size, inches....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price, per doz.....	15.00	17.00	20.00	28.00	51.00	74.00
Price, Nickel Plated, per doz.....	18.00	20.50	23.50	32.00	55.00	.....
Price, Silver Plated, per doz.....	24.00	28.00	35.00	44.00	79.00	.....

COMPRESSION HOSE BIBB, FLANGE AND THIMBLE.



Fig. 181.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price, per doz.....	16.00	18.00	21.00	30.00	54.00	78.00
Price, Nickel Plated, per doz.....	19.00	21.50	24.50	34.00	58.00	.....
Price, Silver Plated, per doz.....	25.00	29.00	36.00	46.00	82.00	.....

COMPRESSION WASH TRAY BIBB.



Fig. 182.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	9.00	10.00	12.00	18.00	34.00
Price, Nickel Plated, per doz.....	11.00	12.50	14.50	20.50	37.00
Price, Silver Plated, per doz.....	16.50	19.00	24.00	33.00	60.00

COMPRESSION WASH TRAY BIBB, SCREWED FOR IRON PIPE.



Fig. 183.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	10.00	11.00	13.00	20.00	37.00
Price, Nickel Plated, per doz.....	12.00	13.50	15.50	22.50	40.00
Price, Silver Plated, per doz.....	17.50	20.00	25.00	35.00	63.00

COMPRESSION WASH TRAY BIBB, FLANGE AND THIMBLE.



Fig. 184.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	15.00	17.00	20.00	28.00	51.00
Price, Nickel Plated, per doz.....	18.00	20.50	23.50	32.00	55.00
Price, Silver Plated, per doz.....	24.00	28.00	35.00	44.00	79.00

COMPRESSION BATH BIBB.



Fig. 185.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	14.00	17.00	26.00	42.00
Price, Nickel Plated, per doz.....	16.50	19.50	28.50	45.00
Price, Silver Plated, per doz.....	23.00	29.00	41.00	68.00

COMPRESSION BATH BIBB, FLANGE AND THIMBLE.



Fig. 186.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	21.00	25.00	36.00	59.00
Price, Nickel Plated, per doz.....	24.50	28.50	40.00	63.00
Price, Silver Plated, per doz.....	32.00	40.00	52.00	87.00

COMPRESSION BATH BIBB, SCREWED FOR IRON PIPE.



Fig. 187.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	15.00	18.00	28.00	45.00
Price, Nickel Plated, per doz.....	17.50	20.50	30.50	48.00
Price, Silver Plated, per doz.....	24.00	30.00	43.00	71.00

COMPRESSION STOP.

With or without Waste.



Fig. 188.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	10.00	11.00	13.00	19.50	36.00
Price, Nickel Plated, per doz.....	12.00	13.50	15.50	22.00	39.00
Price, Silver Plated, per doz.....	17.50	20.00	25.00	34.50	52.00

COMPRESSION STOP, FOR LEAD AND IRON PIPE.



Fig. 189.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	10.50	11.50	13.50	20.50	37.00
Price, Nickel Plated, per doz.....	12.50	14.00	16.00	23.00	40.00
Price, Silver Plated, per doz.....	18.00	20.50	25.50	38.50	53.00

COMPRESSION STOP, SCREWED FOR IRON PIPE.



Fig. 190.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	11.00	12.00	14.00	21.00	38.00
Price, Nickel Plated, per doz.....	13.00	14.50	16.50	23.50	41.00
Price, Silver Plated, per doz....	18.50	21.00	26.00	38.00	54.00

COMPRESSION SHOWER BATH COCK.



Fig. 191.

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	12.00	13.50	15.50	22.50	41.00
Price, Nickel Plated, per doz.....	14.00	16.00	18.00	25.00	44.00
Price, Silver Plated, per doz.....	19.50	22.50	27.50	37.50	67.00

COMPRESSION SHOWER BATH COCK.
Screwed for Iron Pipe.



Fig. 192.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	13.00	14.50	16.50	24.50	44.00
Price, Nickel Plated, per doz.....	15.00	17.00	19.00	27.00	47.00
Price, Silver Plated, per doz.....	20.50	23.50	28.50	39.00	70.00

COMPRESSION URINAL COCK.



Fig. 193.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$
Price, Finished, per doz.....	17.00	18.00
Price, Nickel Plated, per doz.....	20.00	21.00
Price, Silver Plated, per doz	25.00	28.00

COMPRESSION SILL COCK.



Fig. 194.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$
Price, per doz.....	22 00	22 00
Price, Nickel Plated, per doz.....	26 00	26 00

COMPRESSION HOPPER COCK.



Fig. 195.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Price, Rough, Finished Flange and Handle, per doz.....	16.00	19.00	24.00
Price, Rough, Nickel Plated Flange and Handle, per doz.....	18.50	21.50	26.50
Price, Rough, Silver Plated Flange and Handle, per doz.....	25.00	31.00	39.00

COMPRESSION HOPPER COCK, SCREWED FOR IRON PIPE.



Fig. 196.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Price, Rough, Finished Flange and Handle, per doz....	17.00	20.00	26.00
Price, Rough, Nickel Plated Flange and Handle, per doz.....	19.50	22.50	28.50
Price, Rough, Silver Plated Flange and Handle, per doz	26.00	32.00	41.00

COMPRESSION HYDRANT COCK.



Fig. 197.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$
Price per doz..	16.00	18.00	20.00

COMPRESSION HYDRANT COCK, FOR LEAD AND IRON PIPE.



Fig. 198.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$
Price per doz.....	17.00	19.00	22.00

COMPRESSION HYDRANT COCK, SCREWED FOR IRON PIPE.



Fig. 199.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$
Price per doz.....	18.00	20.00	24.00

COMPRESSION BALL COCK.



Fig. 200.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price per doz.....	8.50	9.50	11.00	17.00	30.00

COMPRESSION BALL COCK, SCREWED FOR IRON PIPE.



Fig. 201.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price per doz.....	9.50	10.50	12.00	19.00	33.00

COMPRESSION PANTRY COCKS.



Fig. 202.
PLAIN.

Price, Finished, per doz.....	24.00
Price, Nickel Plated, per doz.	27.00
Price, Silver Plated, per doz.....	34.00

HOSE END.

Price, Finished, per doz.	25.00
Price, Nickel Plated, per doz.....	28.00
Price, Silver Plated, per doz.	35.00



Fig. 203.
PLAIN.

Price, Finished, per doz.	60.00
Price, Nickel Plated, per doz.....	68.00
Price, Silver Plated, per doz.	80.00

HOSE END.

Price, Finished, per doz.....	61.00
Price, Nickel Plated, per doz.	69.00
Price, Silver Plated, per doz.....	81.00

COMPRESSION BASIN COCKS.

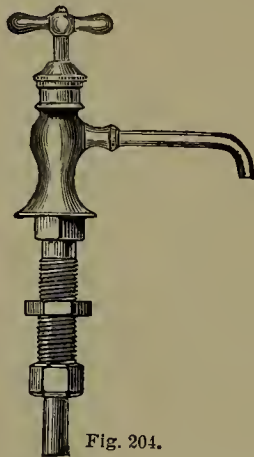


Fig. 204.

Price, Finished, per doz.	14.00
Price, Nickel Plated, per doz.....	17.00
Price, Silver Plated, per doz.	23.00

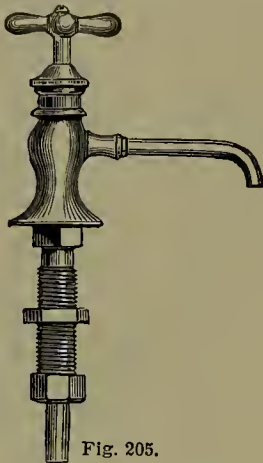


Fig. 205.

Price, Finished, per doz.	15.00
Price, Nickel Plated, per doz.	18.00
Price, Silver Plated, per doz.....	24.00



Fig. 206.

Price, Finished, per doz.	15.00
Price, Nickel Plated, per doz.....	18.00
Price, Silver Plated, per doz.....	24.00

Compression Basin Cocks—CONTINUED.

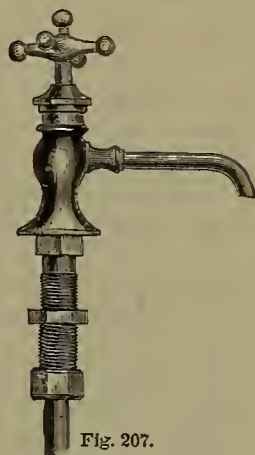


Fig. 207.

Price, Finished, per doz.....	16.00
Price, Nickel Plated, per doz.....	19.00
Price, Silver Plated, per doz.....	25.00



Fig. 208.

Price, Finished, per doz.....	17.00
Price, Nickel Plated, per doz.....	20.00
Price, Silver Plated, per doz.....	26.00



Fig. 209.

Price, Finished, per doz.....	34.00
Price, Nickel Plated, per doz.....	38.00
Price, Silver Plated, per doz.....	46.00

COMPRESSION DOUBLE BASIN COCK, FOR BACK OF SLAB.



Fig. 210.

Price, Finished, each.....	5.00
Price, Nickel Plated, each.....	5.50
Price, Silver Plated, each.....	6.50

COMPRESSION DOUBLE BATH COCK, WITH RING CUP.



Fig. 211.

Price, Finished, each.....	7.50
Price, Nickel Plated, each.....	8.00
Price, Silver Plated, each.....	9.50

COMPRESSION DOUBLE BATH COCK, WITH CHAIN STAY.



Fig. 212.

Price, Finished, each.....	7.00
Price, Nickel Plated, each.....	7.50
Price, Silver Plated, each.....	9.00

COMPRESSION DOUBLE BATH COCK.



Fig. 213.

Price, Finished, each.....	6.50
Price, Nickel Plated, each.....	7.00
Price, Silver Plated, each.....	8.50

COMPRESSION DOUBLE BATH COCK, HANDLES IN FRONT.



Fig. 214.

Price, Finished, each.....	6.50
Price, Nickel Plated, each.....	7.00
Price, Silver Plated, each.....	8.50

COMPRESSION DOUBLE BATH COCK, HANDLES ON TOP.



Fig. 215.

Price, Finished, each.....	6.50
Price, Nickel Plated, each.....	7.00
Price, Silver Plated, each.....	8.50

A. PRIER & CO.'S SELF-CLOSING BIBB.
CLOSING WITH THE PRESSURE.



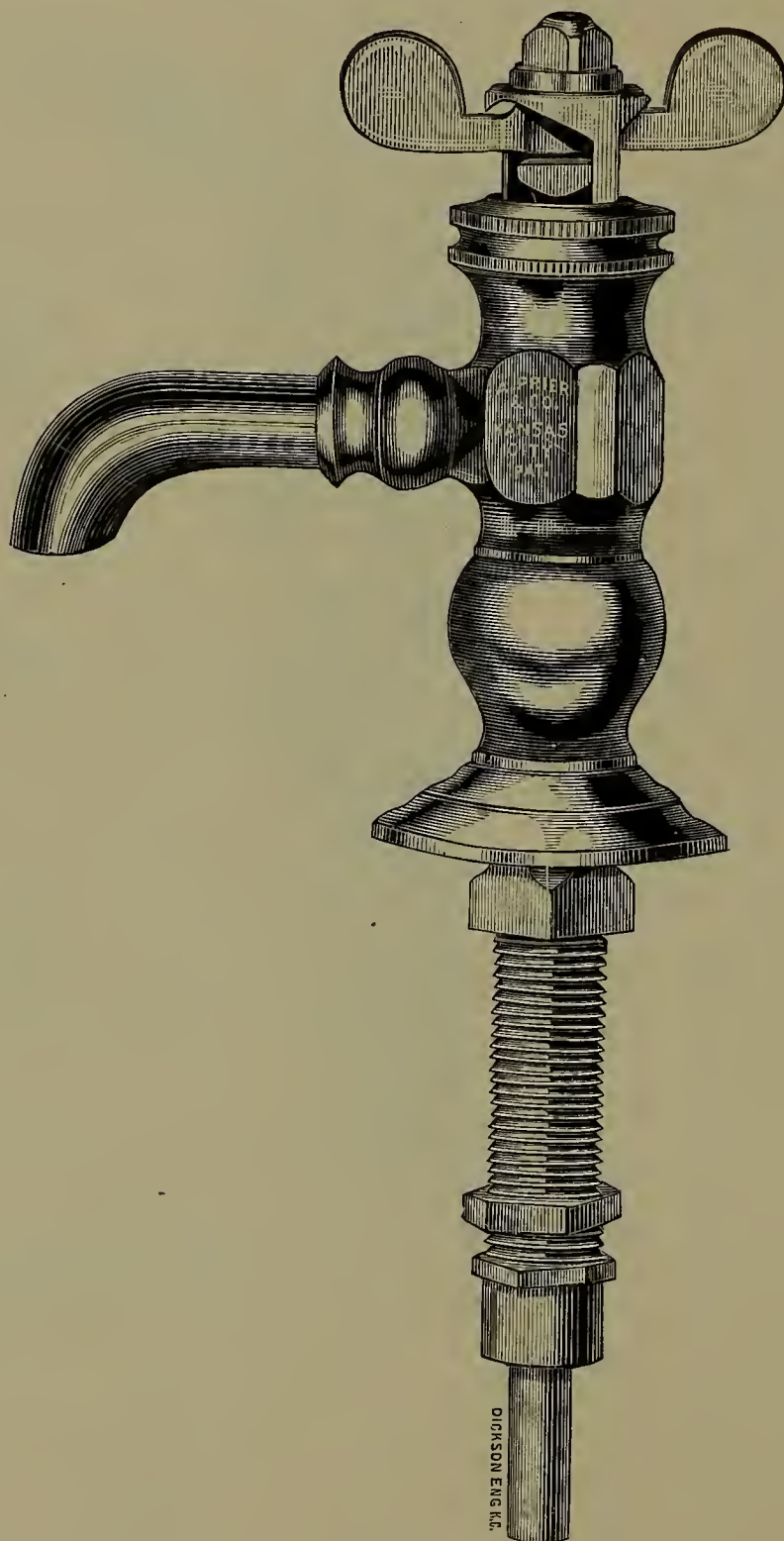
FOR LEAD PIPE

SIZE.	BRASS.	NICKEL PLATED.	SILVER PLATED.
$\frac{1}{2}$ inch, per dozen.....	\$24 00	\$39 00	\$42 00
$\frac{5}{8}$ " "	27 00	42 00	51 00

FOR IRON PIPE.

SIZE.	BRASS.	NICKEL PLATED.	SILVER PLATED.
$\frac{1}{2}$ inch, price per doz.....	\$28 00	\$43 00	\$46 00
$\frac{3}{4}$ " " "	31 00	46 00	55 00
1 " " "	78 00	.....	.....

A. PRIER & CO.'S SELF-CLOSING BASIN COCK.
 CLOSING WITH THE PRESSURE.



BASIN COCKS

Price, finished, per dozen.....	\$45 00
Price, nickel plated, per dozen... ..	48 00
Price, silver plated, "	60 00

ZANE'S OR BOSTON SELF-CLOSING WORK.
PLAIN BIBB.

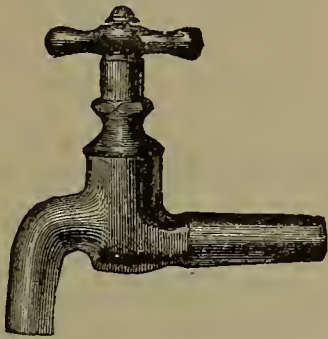


Fig. 225.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	21.00	24.00	27.00	72.00
Price, Nickel Plated, per doz.....	36.00	39.00	42.00	.....
Price, Silver Plated, per doz.....	39.00	42.00	51.00	.....

PLAIN BIBB FOR IRON PIPE.

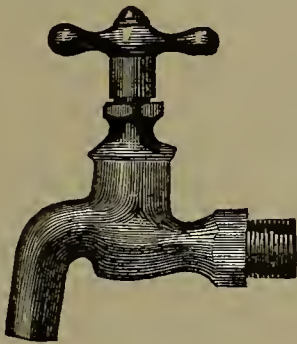


Fig. 226.

Size, inches..	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	25.00	28.00	31.00	78.00
Price, Nickel Plated, per doz.....	40.00	43.00	46.00	.....
Price, Silver Plated, per doz.....	43.00	46.00	55.00	.....

STOP COCK.

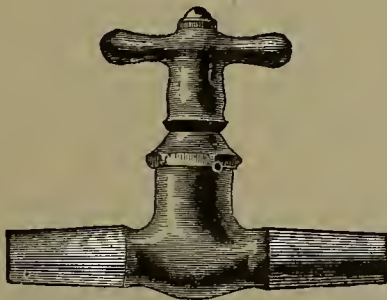


Fig. 227.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{8}$
Price, Lead Pipe, Finished, per doz.....	24.00	27.00
Price, Lead Pipe, Nickel Plated, per doz.....	39.00	42.00
Price, Lead Pipe, Silver Plated, per doz.....	42.00	51.00
Price, Iron Pipe, Finished, per doz.....	32.00	35.00
Price, Iron Pipe, Nickel Plated, per doz.....	47.00	50.00
Price, Iron Pipe, Silver Plated, per doz.....	50.00	59.00

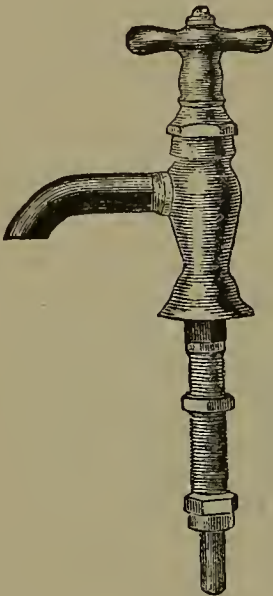


Fig. 228.

ZANE BASIN COCK.

Price, Finished, per doz.....	45.00
Price, Nickel Plated, per doz.....	48.00
Price, Silver Plated, per doz	60.00

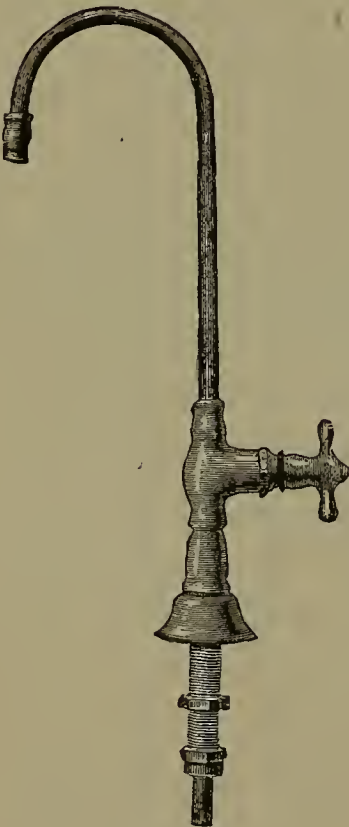


Fig. 229.

ZANE PANTRY COCK.

Price, Finished, per doz.....	54.00
Price, Silver Plated, per doz.....	72.00
Price, Nickel Plated, per doz.....	64.00
Price, Hose ends, extra.....	4.00

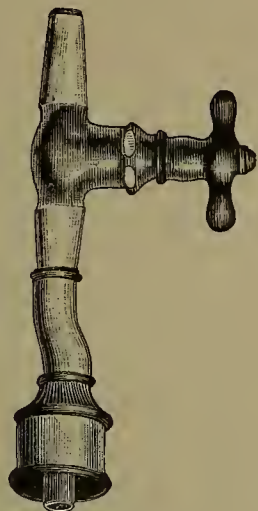


Fig. 230.

ZANE URINAL COCK.

Size, inches	$\frac{1}{2}$
Price, Finished, per doz.....	36.00
Price, Nickel Plated, per doz.....	48.00
Price, Silver Plated, per doz.....	60.00

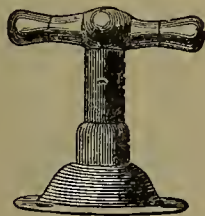


Fig. 231.

ZANE HOPPER COCK.

With Plates and Handles.

Size, inches.....	$\frac{5}{8}$
Price, per doz.....	60.00

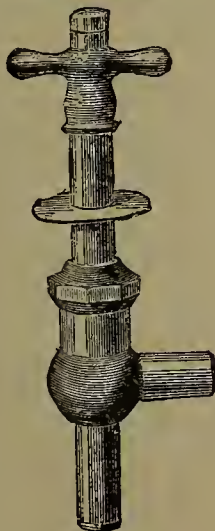
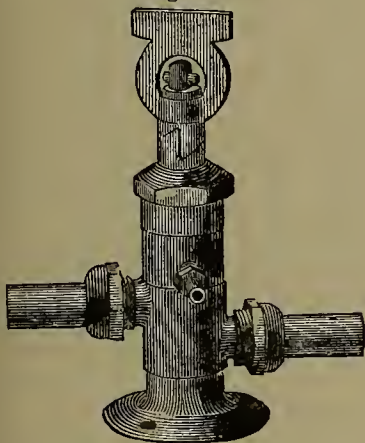


Fig. 232.

ZANE HOPPER COCK.

Size, inches....	$\frac{5}{8}$
Price, per doz.....	30.00

DOHERTY'S SELF-CLOSING WORK.



Fig. 233.

BASIN COCKS.

Price, Finished, per doz.....	42.00
Price, Nickel Plated, per doz.....	48.00
Price, Silver Plated, per doz.....	56.00

URINAL COCKS.

Price, Finished, per doz.....	35.00
Price, Nickel Plated, per doz.....	45.00
Price, Silver Plated, per doz.....	60.00

PANTRY COCKS.

Price, Finished, per doz.....	60.00
Price, Nickel Plated, per doz.....	69.00
Price, Silver Plated, per doz.....	72.00
Hose Ends, extra.....	4.00

PLAIN BIBBS, FOR LEAD PIPE.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$
Price, Finished, per doz.....	24.00	27.00
Price, Nickel Plated, per doz.....	37.50	40.00
Price, Silver Plated, per doz.....	40.00	48.00

PLAIN BIBBS, FOR IRON PIPE.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$
Price, Finished, per doz.....	27.00	30.00
Price, Nickel Plated, per doz.....	40.00	45.00
Price, Silver Plated, per doz.....	44.00	52.00

STOPS, FOR LEAD PIPE.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$
Price, Finished, per doz.....	24.00	27.00
Price, Nickel Plated, per doz.....	37.50	40.00
Price, Silver Plated, per doz.....	40.00	48.00

STOPS, FOR IRON PIPE.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$
Price, Finished, per doz.....	30.00	33.00
Price, Nickel Plated, per doz.....	45.00	48.00
Price, Silver Plated, per doz.....	48.00	56.00

HOPPER COCKS, FINISHED FLANGE AND HANDLE.

Lead	\$28.00	Iron.....	\$30.00
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BALL COCKS.—Including Weighted Ball.

Lead, $\frac{1}{2}$ inch.....	\$31.00	Iron, $\frac{1}{2}$ inch.....	\$34.00
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FULLER WORK.

FULLER PLAIN BIBB.



Fig. 234.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price, Finished, per doz.	16.00	18.00	20.00	26.00	36.00	56.00
Price, Nickel Plated, per doz.....	20.00	22.00	24.00	32.00	46.00	70.00
Price, Silver Plated, per doz.....	28.00	34.00	40.00	50.00	64.00	85.00

FULLER HOSE BIBB.

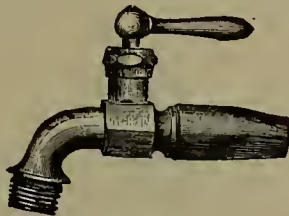


Fig. 235.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	21.00	24.00	30.00	38.00
Price, Nickel Plated, per doz.....	25.00	28.00	36.00	48.00
Price, Silver Plated, per doz.....	37.00	44.00	54.00	66.00

FULLER PLAIN BIBB FOR IRON PIPE.

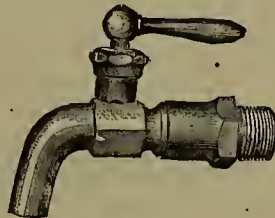


Fig. 236.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	21.00	24.00	30.00	40.00
Price, Nickel Plated, per doz.....	25.00	28.00	35.00	48.00
Price, Silver Plated, per doz.....	31.00	36.00	44.00	64.00

FULLER HOSE BIBB, FOR IRON PIPE.

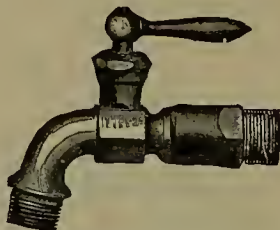


Fig. 237.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.	24.00	27.00	32.00	42.00
Price, Nickel Plated, per dozen.....	28.00	31.00	37.00	50.00
Price, Silver Plated, per doz.....	34.00	39.00	46.00	66.00

FULLER PLAIN BIBB, FLANGE AND THIMBLE.

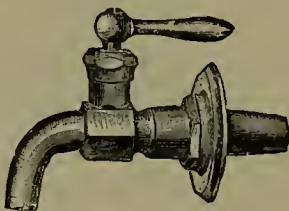


Fig. 238.

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	23.00	26.00	28.00	36.00	48.00
Price, Nickel Plated, per doz.....	28.00	32.00	34.00	42.00	58.00
Price, Silver Plated, per doz.....	36.00	42.00	46.00	56.00	75.00

FULLER WASH-TRAY COCK.



Fig. 239.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	20.00	22.50	30.00	40.00



Fig. 240.

FULLER WASH TRAY COCK.

With Flange and Thimble.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, Finished, per doz.....	26.00	28.00	36.00	50.00



Fig. 241.

IMPROVED BALL COCK.

Size, inches.....	$\frac{1}{2}$	$\frac{5}{8}$
Price, with Ball, for Lead Pipe, per doz.	27.00	34.00
Price, with Ball, for Iron Pipe, per doz.....	32.00	38.00



Fig. 242.

FULLER BASIN COCK.

Price, Finished, per doz.....	33.00
Price, Nickel Plated, per doz..	40.00
Price, Silver Plated, per doz.....	46.00
Price, extra for Ring Cup, per doz.....	8.00



Fig. 243.

FULLER BASIN COCK.

No. 2.

Price, Brass, per doz.....	36.00
Price, Nickel Plated, per doz.....	44.00
Price, Silver Plated, per doz.....	50.00
Extra for Ring Cup, per doz.....	8.00



Fig. 244.

FULLER BASIN COCK

No. 3.

Price, Brass, Finished, per doz.....	46.00
Price, Nickel Plated, per doz.....	54.00
Price, Silver Plated, per doz.....	60.00
Extra for Ring Cup, per doz.....	8.00

FULLER BASIN COCKS.



Fig. 245.

Number 4.

Price, Finished, per doz.	56.00	Price, Silver Plated, per doz.....	70 00
Price, Nickel Plated, per doz.....	64.00	Extra for Ring Cup, per doz.....	8.00



Fig. 246.

With Low Down Outlet.

Price, Finished, per doz.....	54.00
Price, Nickel Plated, per doz.....	60.00
Price, Silver Plated, per doz.....	65.00

FULLER DOUBLE BASIN COCKS.

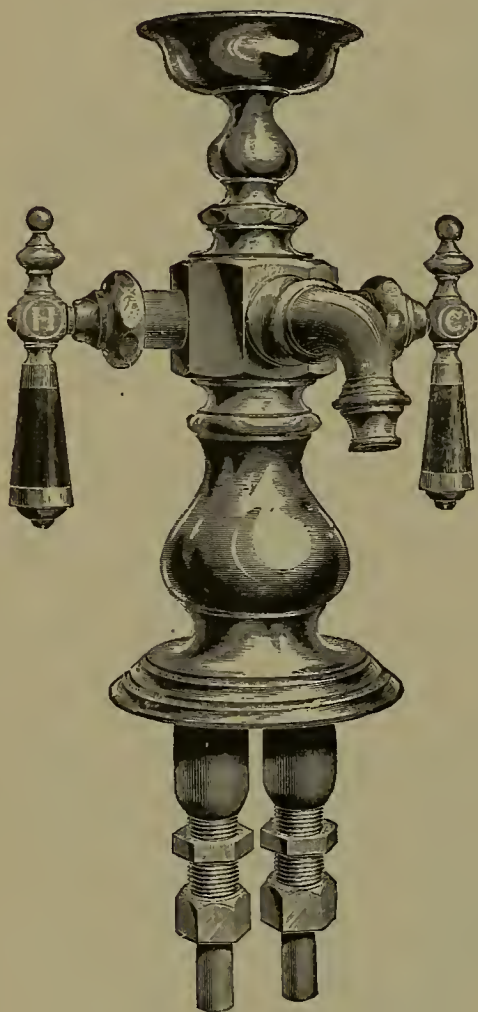


Fig. 248.

Number 9.



Fig. 249.

Number 10.

Number	9	10
Price, Finished, each	16.00	24.00
Price, Nickel Plated, each	18.00	28.00
Price, Silver Plated, each	20.00	32.00

FULLER PANTRY COCK.

(See Fig. 250.)

Number.....	1	2
Price, Finished, per doz.....	36.00	42.00
Price, Nickel Plated, per doz....	42.00	50.00
Price, Silver Plated, per doz....	50.00	60.00

FULLER DOUBLE PANTRY COCK.

(See Fig. 251.)

Number.....	8	9
Price, Finished, each.....	12.00	16.00
Price, Nickel Plated, each.....	13.00	18.00
Price, Silver Plated, each	15.00	20.00

Fig. 250.

Fig. 251.

FULLER WORK TRIMMINGS.

Eccentric.



Fig. 252.

Size, inches.....	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{3}{4}$	1
Price, per doz.....	3.00	4.00	6.00

Rubber Ball.

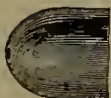


Fig. 253.

Ball Stem, with Ball.



Fig. 254.

Size, inches..	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price per doz.	.75	1.00	1.25	2.00

Size, inches.	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{3}{4}$	1
Price, per doz.....	3.00	4.00	6.00

FULLER COMBINATION BATH COCKS.

Complete, with Sprinklers and Tubes.

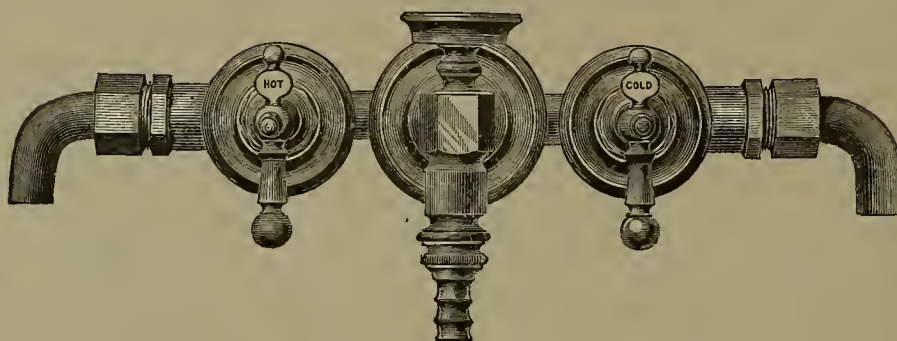


Fig. 255.

Number 1.

Price, Finished, each.....	10.50
Price, Nickel Plated, each.....	12.00
Price, Silver Plated, extra heavy, each.....	14.00

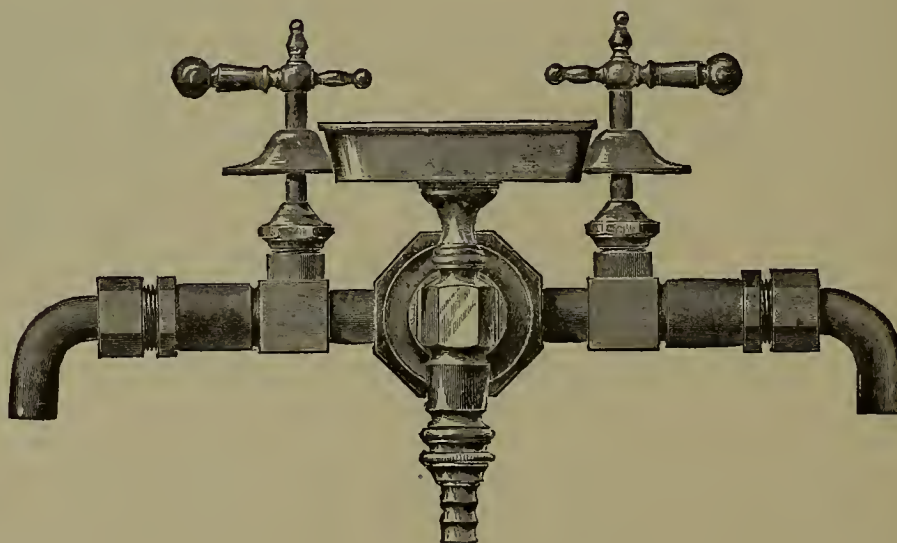


Fig. 256.

Number 2.

Price, Finished, each.....	13.00
Price, Nickel Plated, each.....	14.00
Price, Silver Plated, extra heavy, each.....	16.00

No. 2½, same style Handles in front, same prices.

FULLER COMBINATION BATH COCKS.

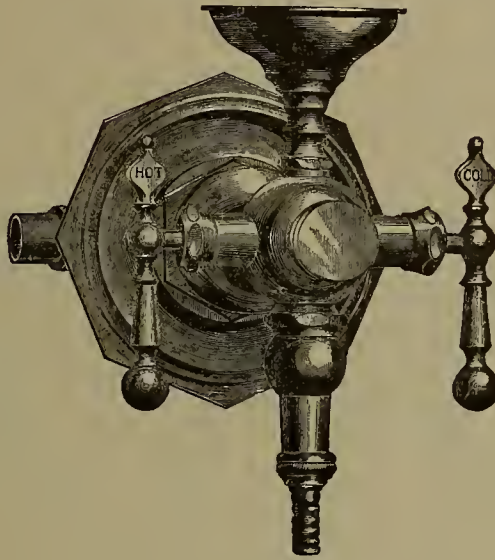


Fig. 257.
Number 3.

Price, Finished, each.....	14.00
Price, Nickel Plated, each.....	15.50
Price, Silver Plated, extra heavy, each.....	17.00

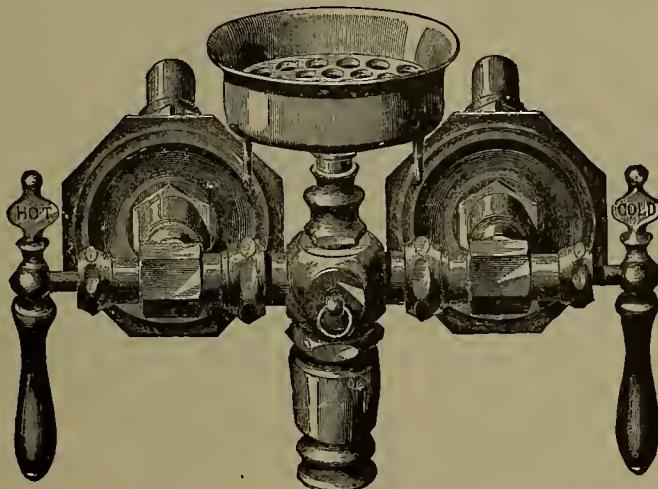


Fig. 258.
Number 4.

Price, Finished, each.....	18.00
Price, Nickel Plated, each	21.00
Price, Silver Plated, each.....	23.00

INLAID FULLER WORK.

Combination Supply for Hip Bath.

HANDLES MOUNTED WITH IVORY.

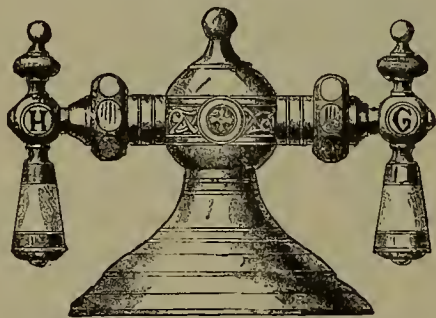


Fig. 259.

Secret Waste for Hip Bath.

HANDLES MOUNTED WITH EBONY.

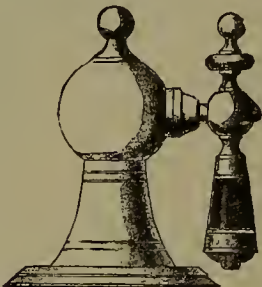


Fig. 260.

Price, Plain Silver Plated, each.....	20.00	Price, Plain Silver Plated, each.....	10.00
Price added for Engraving, each.....	6.00	Price added for Ivory or Ebony Handle....	1.00
Price added for Ivory or Ebony Handles....	2.00	Added for Stone Handles, Jasper or Onyx.	10.00
Added for Stone Handles, Jasper or Onyx..	20.00	.....	.....

COMBINATION BRACKET SHAMPOO COCK.

Handles Mounted with Onyx.

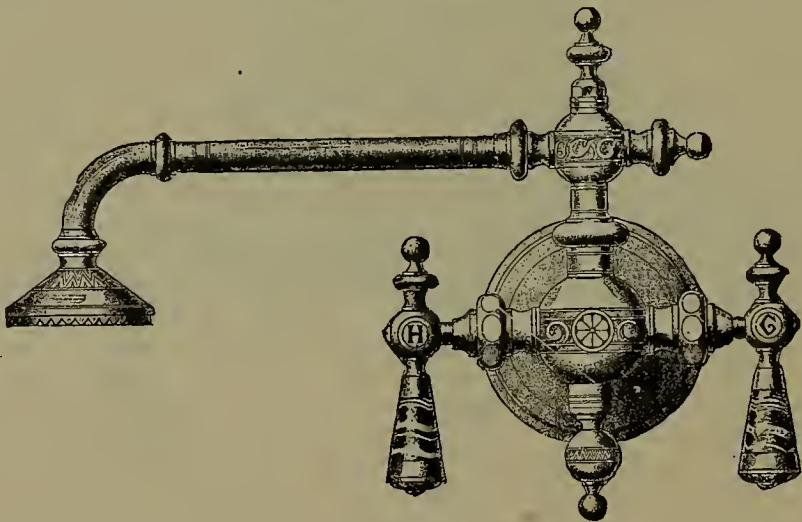


Fig. 261.

Price, Plain Silver Plated, each.....	40.00
Price added for Engraving, each.....	8.00
Price added for Ivory or Ebony Handles, each.....	2.00
Price added for Stone Handles, Jasper or Onyx, each.....	20.00

COMBINATION SHOWER COCK AND SPRINKLER.

Handles Mounted with Onyx.

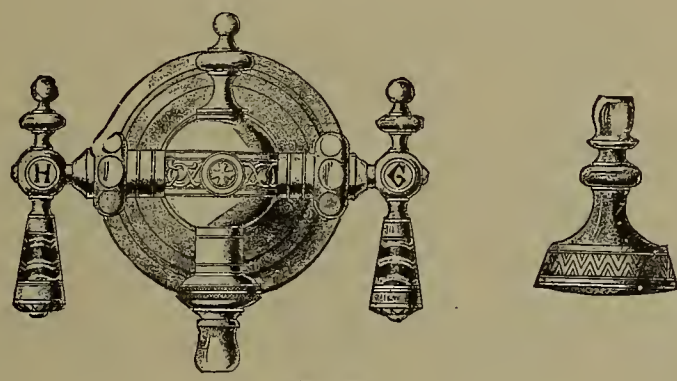


Fig. 262.

Price, Plain Silver Plated, each.....	20.00
Price added for Engraving, each.....	7.00
Price added for Ivory or Ebony Handles, each	2.00
Price added for Stone Handles, Jasper or Onyx, each.....	20.00

Secret Supply for Plunge Bath.

HANDLES MOUNTED WITH IVORY.

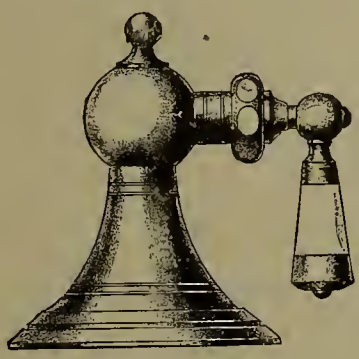


Fig. 263.

Combination Bath Cock.

HANDLES MOUNTED WITH JASPER.

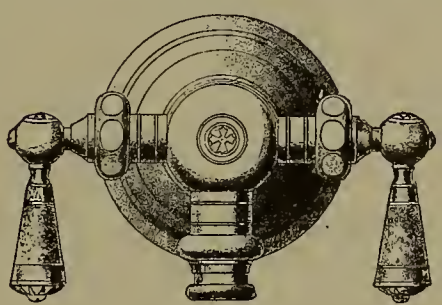


Fig. 264.

Price, Plain Silver Plated, each.....	12.00	Price, Plain Silver Plated, each....	20.00
Price added for Ivory or Ebony Handles....	1.00	Price added for Engraving, each.....	6.00
Added for Stone Handles, Jasper or Onyx..	10.00	Price added for Ivory or Ebony Handles...	2.00
.....	.....	Added for Stone Handles, Jasper or Onyx..	20.00
.....	.....	Price added for Soap Tray, Plain, each....	4.00
.....	.....	Price added for Soap Tray, Engraved, each	6.00

BASIN COCK, SOAP TRAY AND SECRET WASTE.

Handles Mounted with Jasper.

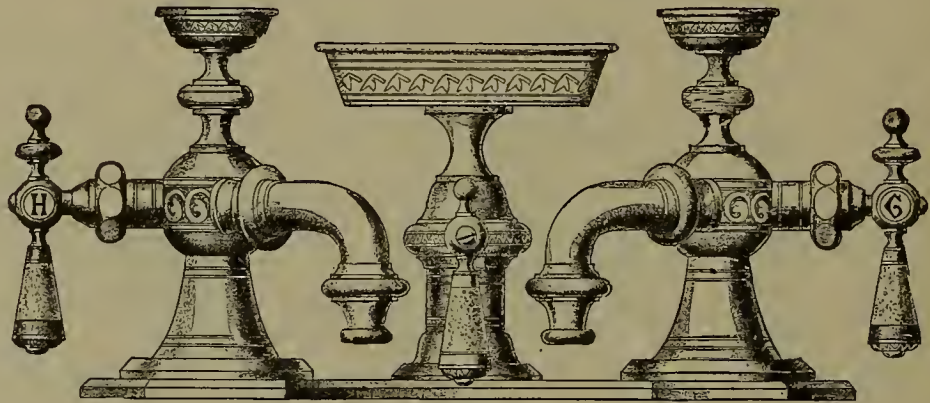


Fig. 265.

Price, Plain, Silver Plated, per set.....	50.00
Price added for Engraving, per set.....	10.00
Price added for Ivory or Ebony Handles, per set.....	3.00
Price added for Stone Handles, Jasper or Onyx, per set	30.00
Price, Basin Cock only, each.....	16.00
Price added for Engraving, each.....	4.00
Price added for Ivory or Ebony Handles, each.....	1.00
Price added for Stone Handles, Jasper or Onyx, each	10.00
Price, Secret Waste only, each.....	15.00
Price added for Engraving, each.....	3 00
Price added for Ivory or Ebony Handles, each.....	1.00
Price added for Stone Handles, Jasper or Onyx, each.....	10.00

PLAIN COUPLING.



Fig. 277.

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$
Price, Finished, per doz.....	2.25	2.50	3.50	4.50	5.50	8.00	11.00	18.00
Price, Finished, Ground Face, per doz.....	.....	.....	5.00	6.00	6.50	10.00	14.00	22.00

BOILER COUPLINGS, FOR COPPER BOILER.

Straight.



Fig. 278.

Bent.



Fig. 279.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Price, Plain, Fig. 278, per doz.....	7.50	8.00	11.00
Price, Ground, Fig. 278, per doz.....	8.00	8.50	11.50
Price, Plain, Fig. 279, per doz....	8.50	9.00	11.50
Price, Ground, Fig. 279, per doz.....	9.00	9.50	12.00
Price of one Straight and three Bent, Plain Face, per set.....	.....	2.25	.....
Price of one Straight and three Bent, Ground Face, per set.....	.....	2.50	.....

BOILER COUPLINGS, FOR IRON BOILER.

Straight.



Fig. 280.

Bent.



Fig. 281.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Price, Plain, Fig. 280, per doz.....	8.50	9.50	12.00
Price, Ground Face, Fig. 280, per doz.....	9.00	10.00	12.50
Price, Plain Face, Fig. 281, per doz....	9.50	10.50	12.50
Price, Ground Face, Fig. 281, per doz.....	10.00	11.00	13.00
Price of one Straight and three Bent, Plain Face, per set.....	.....	2.50	.....
Price of one Straight and three Bent, Ground Face, per set.....	.....	2.75	.....

HOSE MENDER.



Fig. 282.

Size, inches....	$\frac{3}{4}$	1
Price, per doz.....	1.00	1.25

WATER BACK COUPLINGS.

Straight.



Fig. 283.

Bent.



Fig. 284.

Size, inches.	$\frac{1}{2}$	$\frac{3}{4}$	1
Price, Plain (Fig. 283), per doz.	6.50	7.50	11.00
Price, Ground Face (Fig. 283), per doz.	7.00	8.00	12.00
Price, Plain (Fig. 284), per doz.	7.50	8.50	12.00
Price, Ground Face (Fig. 284), per doz.	8.00	9.00	13.00

SOLDERING NIPPLE.



Fig. 285.

Size, inches.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, per doz.	1.75	2.25	2.50	3.00	5.00	7.50	10.00	14.00	20.00	28.00

SOLDERING UNION.



Fig. 286.

Size, inches.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price, per doz.	2.25	2.75	3.00	3.50	5.75	8.50

END FERRULE, FOR IRON PIPE.

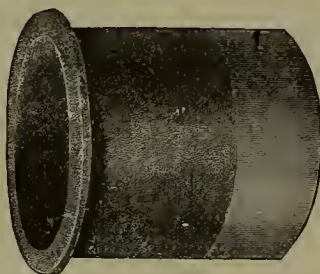


Fig. 287.

Size, inches.	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Price, each. ....	.50	.60	.75	.90	1.00

STREET WASHER SCREWS.



Fig. 288.

Size, inches.	$\frac{1}{2}$	$\frac{3}{4}$	1
Price, per doz.	5.50	6.00	8.50

For Iron Pipe.



Fig. 289.

With Flange, for Iron Pipe.



Fig. 290.

Size, inches.	$\frac{1}{2}$	$\frac{3}{4}$	1	Size, inches.	$\frac{3}{4}$
Price, per doz.	6.00	7.00	9.00	Price, per doz.	12.00

HOSE BIBB END.



Fig. 291.

Size, inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price, per doz.....	2.00	2.00	2.00	3.00

HOSE NIPPLES.



Fig. 292.



Fig. 293.

Size, inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Price, per doz, (Fig. 292).....	3.50	5.00	7.00	10.00	14.00	28.00
Price, per doz. (Fig. 293).....	3.50	5.00	7.00	10.00	14.00	28.00

HYDRANT NOZZLE.

HYDRANT NOZZLE FOR IRON PIPE.



Fig. 294.



Fig. 295.

Size, inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Price, per doz. (Fig. 294).....	4.00	5.00	6.50
Price, per doz. (Fig. 295).....	5.00	6.00	7.50

HYDRANT HANDLE AND GUIDE.



Fig. 296.

Price, Straight, per doz.....	6.00
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HYDRANT HANDLES.

Triangular Guide.

For Compression Cock.



Fig. 297.



Fig. 298.

Price, per doz. (Fig. 297).....	7.00
Price, per doz. (Fig. 298).....	5.00
Price, Malleable Iron, per lb.....	.15

STREET WASHER CHECK.



Fig. 299.

STREET WASHER KEY.



Fig. 300.

Price, Brass, per doz.....	2.50	Price, Malleable Iron, per lb.....	.15
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HYDRANT CLAMP.



Fig 301.

HYDRANT SOCKET.



Fig. 302.

Price, for 1/2 and 3/8 in. Cocks, per doz.....	2.50	Price, Brass, per doz.....	1.75
Price, for 3/4 and 1 in. Cocks, per doz.....	3.50	Price, Malleable Iron, per lb.....	.15
Price, Malleable Iron, per lb.....	.15		

BASIN PLUG.

COMMON OVERFLOW.



Fig. 303.

BASIN PLUG.

PATENT OVERFLOW.



Fig. 304.

Price, Finished, per doz... ..	6.50	Price, Finished, per doz.....	7.50
Price, Nickel Plated, per doz.....	7.00	Price, Nickel Plated, per doz.....	8.00
Price, Silver Plated, per doz.....	8.00	Price, Silver Plated, per doz.....	9.00

BASIN GRATE.



Fig. 305.

SOAPSTONE OR WOOD SINK PLUG.



Fig. 306.

Price, Finished, per doz.....	8.00	Size, inches.....	1	1 1/4	1 1/2
Price, Nickel Plated, per doz.....	9.00	Price, Finished, per doz .. .	13.00	15.00	19.00
Price, Silver Plated, per doz.....	10.00	Price, Nickel Plated, per doz..	14.00	16.00	20.00
		Price, Silver Plated, per doz ..	16.00	18.00	23.00

SINK OR BATH PLUG.



Fig. 307.

Size, inches.....	1	1¼	1½	1¾	2	2¼	2½	3½	4
Price, Finished, per doz....	2.50	3.50	4.50	6.00	8.00	11.00	15.00	18.00	36.00

WASH TRAY PLUG.



Fig. 308.

Size, inches.....	1	1¼	1½	1¾	2	2¼	2½	3½	4
Price, Finished, per doz....	3.50	5.00	6.50	7.50	9.00	13.00	17.00	22.00	41.00

TRAP SCREW.



Fig. 309.

Size, inches.....	¾	1	1¼	1½	2	2½	3	3½	4
Price, Finished, per doz....	2.50	2.75	3.50	4.50	7.00	11.00	15.00	26.00	30.00

STRAINERS.

Round.



Fig. 310.

Fancy.



Fig. 311.

Size, inches.....	1¼	1½	2	2½	3	3½	4	5	6
Price, Finished, Round or Fancy, per doz.....	.75	.85	1.00	1.25	1.50	2.25	3.00	5.00	7.50

Foley's Waste Valve, Flange & Handle.



Fig. 312.

HOPPER COCK.



Fig. 313.

RUNS WHEN SAT UPON.

Price, Basin Waste, Silver Plated, each.	6.67	Price, per doz..	22.00
Price, Bath Waste, Silver Plated, each..	8.00		

CLOSET VALVES.



Fig. 314.



Fig. 315.

NEW PATTERN, WITH AIR TUBE.

Price, per doz.....	12.00	Price, per doz.....	24.00
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CHAIN STAYS.



Fig. 316.



Fig. 317.

Price, Finished, per doz.....	2.25	Price, Finished, per doz.....	3.25
Price, Nickel Plated, per doz.....	2.75	Price, Nickel Plated, per doz.....	4.00
Price, Silver Plated, per doz.....	3.25	Price, Silver Plated, per doz.....	4.50



Fig. 318.



Fig. 319.



Fig. 320.

Price, Finished, per doz....	6.00	Price, Finished, per doz....	4.50	Price, Finished, per doz....	15.00
Price, Nickel Pl'd, per doz..	7.00	Price, Nickel Pl'd, per doz..	5.50	Price, Nickel Pl'd, per doz..	17.00
Price, Silver Pl'd, per doz..	8.00	Price, Silver Pl'd, per doz..	6.50	Price, Silver Pl'd, per doz..	19.00

With Ring Cup.



Fig. 321.

With Ring Cup.



Fig. 322.

Price, Finished, per doz.....	8.00	Price, Finished, per doz.....	18.00
Price, Nickel Plated, per doz.....	9.00	Price, Nickel Plated, per doz.....	20.00
Price, Silver Plated, per doz.....	10.00	Price, Silver Plated, per doz....	22.00

Soap Cup.



Fig. 323.

Soap Cup, Chain Stay, Ring Holder and Brush Rack, Combined.



Fig. 324.

Price, Finished, per doz..	30.00	Price, Finished, each	7.00
Price, Nickel Plated, per doz.....	32.00	Price, Nickel Plated, each.....	8.50
Price, Silver Plated, per doz.....	34.00	Price, Silver Plated, each	10.00

CHAIN.

SAFETY.

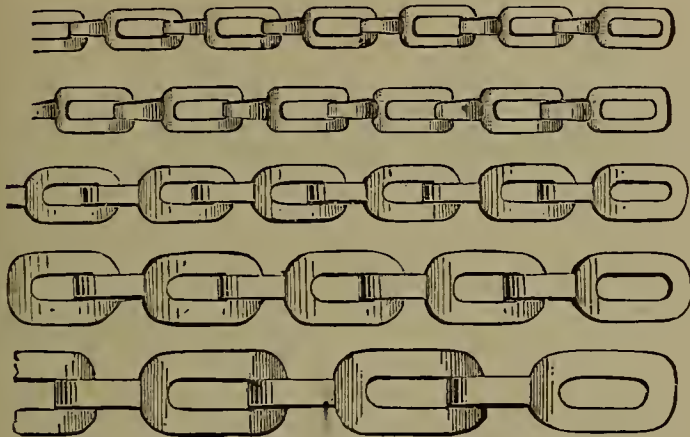


Fig. 325.

PRICE PER PACKAGE.		WIRE GAUGE.
BRASS.	PLATED.	
\$2 25	\$3 00	No. 00.
2 50	3 25	No. 0.
3 12	4 08	No. 1.
4 68	5 75	No. 2.
6 36	8 00	No. 3.

DOUBLE.

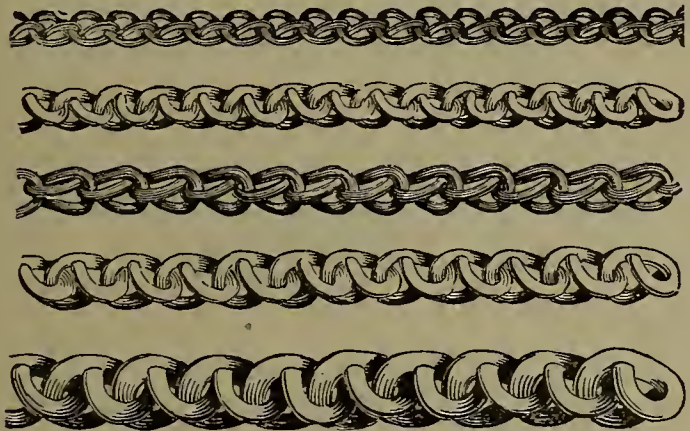


Fig. 326.

1 50	2 50	No. 18.
1 95	2 90	No. 17.
2 55	3 75	No. 15.
3 00	4 50	No. 14.
5 25	7 25	No. 12.

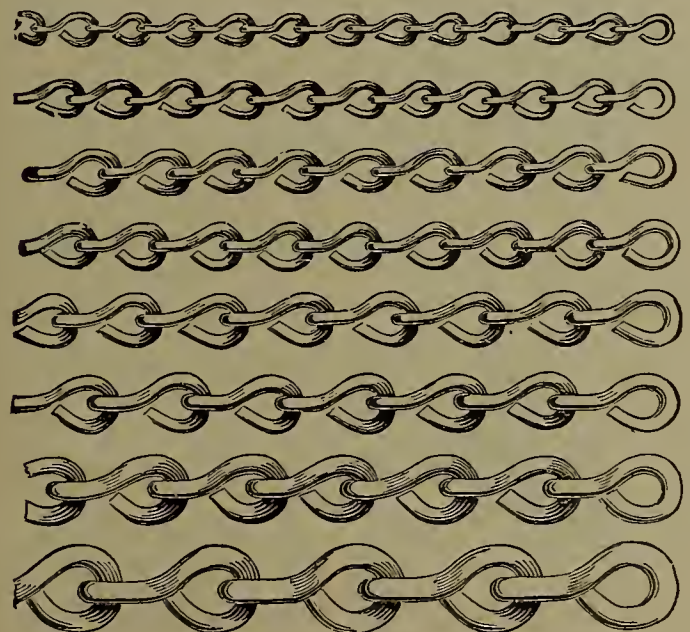


Fig. 327.

55	1 15	No. 22.
70	1 35	No. 20.
1 00	1 60	No. 18.
1 10	1 80	No. 17.
1 25	2 10	No. 16.
1 40	2 25	No. 15.
1 70	2 85	No. 14.
2 50	3 75	No. 12.

BASIN CLAMPS.



Fig. 328.



Fig. 329.



Fig. 330.

Figures.....	328	329	330
Price per doz.....	2.00	1.50	.75

PLATED SCREWS FOR SLABS.



Fig. 331.

Price, Silver Plated, per doz	1.25
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TACK MOULDS.

Plain Pattern.



Fig. 332.

Star Pattern.



Fig. 333.

Price, Single, each....	2.50	Price, Single, each.....	3.50
Price, Double, each.....	3.50	Price, Double, each..	4.50

Closet Crank—Upright.



Fig. 334.

Closet Crank—Horizontal.



Fig. 335.

Price per doz	3.00	Price per doz.....	3.00
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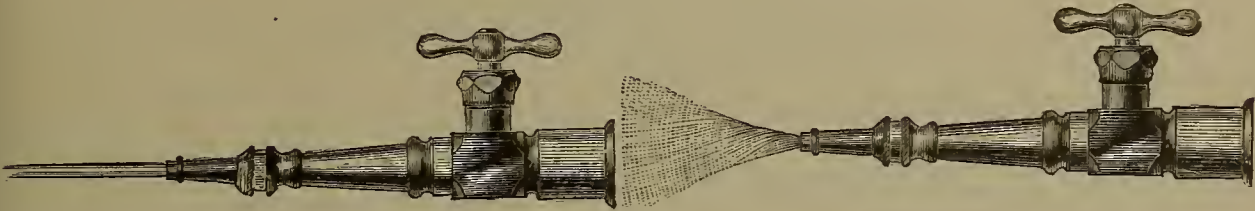
BALL LEVER, FOR CLOSET.



Fig. 336.

Price per doz.....	6.00
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FULLER HOSE PIPES.



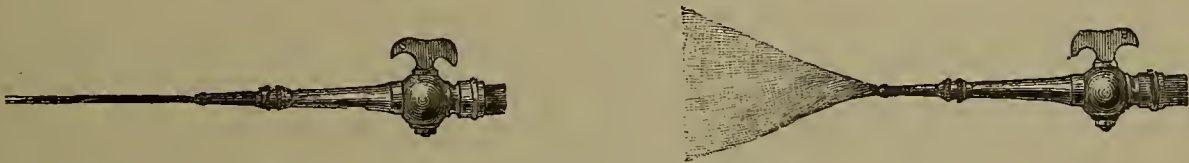
Cut showing Straight Stream.

Cut showing Spray.

Size.....	$\frac{3}{4}$	1
Per dozen.....	18.00	30.00

MAGIC HOSE NOZZLES.

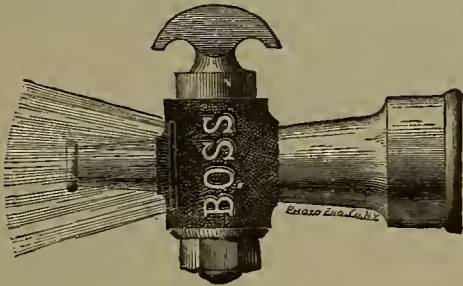
Patented December 7, 1875, and October 10, 1879.



$\frac{3}{4}$ -inch Magic Hose Nozzle, long, with Screw Tip, per dozen.....	\$12 00
$\frac{3}{4}$ -inch " " " short, no " " " "	10 00
1-inch " " " Screw Tip, per dozen.....	18 00

THE BOSS NOZZLE.

Patented March, 1878.



Nickel Plated, per dozen, $\frac{3}{4}$ -inch.....	\$15 00
" " " " 1 "	20 00

HOSE PIPES WITH COCK.



Size.....	$\frac{3}{4}$	$\frac{3}{4}$	1	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Length, inches.....	8	12	8	12	15	18	24
Per dozen.....	12.00	15.00	14.00	18.00	34.00	72.00	136.00

PLAIN HOSE PIPES.



HOSE PIPES, PLAIN.					HOSE PIPES, SCREW TIP.								
Size	$\frac{3}{4}$	$\frac{3}{4}$	1	1	Size	$\frac{3}{4}$	$\frac{3}{4}$	1	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Length, inches	8	12	8	12	Length in.	8	12	8	12	15	18	21	24
Per doz.....	6.50	8.50	8.50	11.50	Per doz...	7.00	9.00	9.00	12.00	21.00	38.00	60.00	115.00

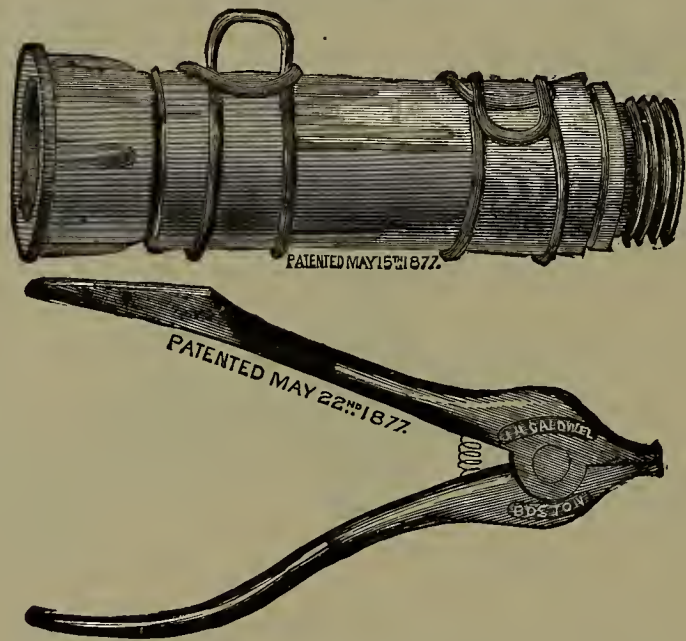
HOSE NOZZLES, TO TIE ON.



Size.....	$\frac{3}{4}$	$\frac{3}{4}$	1	1	1
Length, inches.....	6	10	6	8	10
Per doz.....	3 50	5 00	4.50	5.00	6.00

THE CALDWELL PATENT HOSE STRAP.

The Cheapest, Simplest and Best in use.



PRICE LIST HOSE STRAPS AND FASTENERS.

NUMBER.	WIDTH, INCH.	LENGTH, INCH.	PER DOZEN.	NUMBER.	WIDTH, INCH.	LENGTH, INCH.	PER DOZEN.
2.....	$\frac{1}{2}$	$3\frac{3}{8}$	\$0 40	20	$1\frac{1}{2}$	$7\frac{1}{8}$	\$1 20
4	$\frac{1}{2}$	$3\frac{3}{4}$	40	22	$1\frac{1}{2}$	$7\frac{1}{2}$	1 40
6	$\frac{3}{4}$	$4\frac{1}{8}$	60	24	$1\frac{3}{4}$	8	1 40
8	$\frac{3}{4}$	$4\frac{3}{8}$	60	26	2	$8\frac{1}{2}$	1 60
10	1	5	80	28	2	9	1 60
12	1	$5\frac{3}{8}$	80	30	$2\frac{1}{4}$	$9\frac{1}{2}$	1 80
14	$1\frac{1}{4}$	6	1 00	32	$2\frac{1}{4}$	10	1 80
16	$1\frac{1}{4}$	$6\frac{3}{8}$	1 00	34	$2\frac{1}{2}$	$10\frac{1}{2}$	2 00
18	$1\frac{1}{2}$	$6\frac{3}{4}$	1 20	36	$2\frac{1}{2}$	11	2 00

Hose Strap Fasteners, $\frac{1}{2}$ to 1 inch, inclusive, each.....	\$0 50
“ “ $1\frac{1}{4}$ to $2\frac{1}{2}$ “ “ “	75

HOSE SPRINKLERS.



Fig. 272.

Diameter, inches	1½	2
Price, per doz. for ¾ and 1 inch Pipes	2.50	3.25

SHAMPOOING SPRINKLERS.



Fig. 273.

Price, Finished, per doz.....	8.00
Price, Nickel Plated, per doz.....	10.00
Price, Silver Plated, per doz.....	12.00

HOSE COUPLINGS.



Fig. 274.

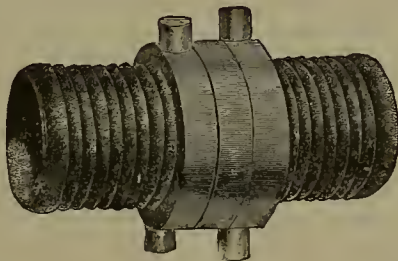


Fig. 275.

Size, inches... ..	½	¾	1	1¼	1½	2	2½	3	3½	4
Price, per doz.....	2.40	2.40	4.40	10.00	14.00	24.00	40.00	76.00	120.00	150.00
Price, for Iron Pipe, per doz.....	2.65	2.65	4.65	10.50	15.00	26.00	42.00	79.00	.....	.....

HOSE CLAMPS.



Fig. 276.

Size, inches.....	¾	1	1¼	1½	2	2½	3
Price, per pair .....	.28	.36	.48	.60	.72	.92	1.12

THE BEST IN THE WORLD

THE ALEXANDER SANITARY CLOSET.



Fig. 337.

A FEW FEATURES OF ITS EXCELLENCE.

1. In the Iron Body Closet, the porcelain bowl, being cemented in an iron casing, makes it secure from breakage, and no possibility of leakage.
2. There being a direct outlet from bowl, the contents will be discharged quicker, and the bowl left cleaner than in any other closet.
3. There is no possibility of float being fouled, the bottom of bowl and lower valve being thoroughly washed each time by the flush from tank.
4. There being a flushing rim, the bowl will fill very quickly.
5. The water in the bowl only being used each time, prevents the noise heard through the house, as in other closets where their whole contents are discharged at once.
6. There is less waste of water with better effect than in any other closet.
7. The bottom valve is very simple and strongly constructed, and it may be easily rewashed by unscrewing porcelain washer. There is no disconnecting of closet.
8. Should the supply of water be shut off, the water in the tank, which rises to same height as in the bowl, would be sufficient to flush the closet several times.
9. The rock shaft has a stuffing nut to the trunk, preventing any escape of sewer gas. There is a flow of water that runs between the trunk and bowl on the rock shaft, preventing any paper from lodging there.
10. The overflow is large and doubly trapped, with outlet for ventilation.
11. The water valve is strong, simple and hardly possible to get out of order, easily rewashed, having sufficient size of ball and leverage to shut off at any pressure and without any noise.
12. By adjusting the ball, the height of water can be as desired.

PRICE LIST.

Iron Body	\$25 00
All Earthen	45 00

With Plated Trimmings.



Fig. 339.—Straight.

ZANE'S SANITARY WATER CLOSET.

Price each.....	\$32 00
Extra for Enameled Reservoir.....	4 00

In ordering, please state if wanted Straight or with Offset.

JENNINGS' CLOSET.



Fig. 340—Iron Body with Trap.

Price, all Earthenware, each	\$35 00
“ Iron Trap, each.....	29 00
“ with Offset.....	25 00
“ without Offset.....	24 00
“ Galvanized, extra	1 00

VALVE CLOSET.



Fig. 311

Price, with Brass Cup and Pull, each.....	\$7 00
“ with Plated Cup and Pull, each.....	7 50

CISTERN CLOSET.

Complete with Cranks, Ball Lever and Valve.



Fig. 342.

Price, with Brass Cup and Pull, each	\$7 00
“ with Plated “ “ “	7 50



Fig. 343.

HOPPER VALVE CLOSET.

With Self-Raising Round Seat.

Price, Enameled, each..\$10.00



Fig. 344.

HOPPER VALVE CLOSET.

With Trap.

Price, Enameled, each.....\$11.00



Fig. 345.

BIDET PAN.

Made up Complete for Hot and Cold Water.

Price, each.....\$48.00

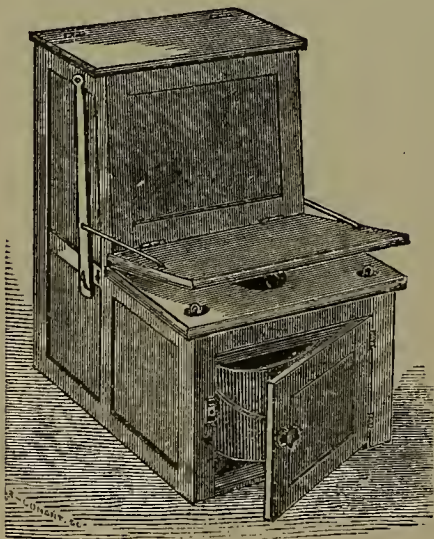


Fig. 346.

EARTH CLOSET.

Price, Black Walnut, each.....\$40.00

Price, Chestnut, with Black Walnut Trimmings,
each..... 35.00

Price; Pine Stained, each..... 30.00

SLOP OR URINAL SAFES.

Enameled.



Fig. 347.



Fig. 348.

Price, for Round French Bowl, each	2.50	Price, for Oval or Sanitary Bowl.	2.50
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PHILADELPHIA HOPPER.

Enameled.



Fig. 349.

Long Oval Flushing Rim Hopper.

Enameled.



Fig. 350.

Price, each.....	2.00	Price, each.....	5.50
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HALF CIRCLE URINAL.

Plain and Enameled.



Fig. 351.

CORNER URINAL.

Plain and Enameled.



Fig. 352.

Size, inches.....	12	15	Size, inches.....	9	12
Price, Plain, each.....	1.00	1.30	Price, Plain, each.....	1.15	1.30
Price, Enameled, each.....	2.50	3.00	Price, Enameled, each.....	2.25	3.00

HALF CIRCLE AND CORNER WASH STANDS.

On Standard, Patent Overflow, Nickel Plated Plug, Rubber Stopper and Brass Couplings.



Fig. 353.



Fig. 354.

Price, Enameled, each.....	9.50	Price, Enameled, each.....	9.50
----------------------------	------	----------------------------	------

HALF CIRCLE AND CORNER SLABS AND BOWLS.

Patent Overflow, Nickel Plated Plug, Rubber Stopper and Brass Coupling.



Fig. 355.



Fig. 356.

Price, Enameled, each.....	7.50	Price, Enameled, each.....	7.50
----------------------------	------	----------------------------	------

WASH BASINS.

Common Overflow, Enameled.

Patent Overflow, Rubber Plug, Enameled.



Fig. 357.



Fig. 358.

Price, 14 inch, each.....	3.00	Price, 14 inch, each.....	3.50
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PATENT FOLDING, LIPPED URINALS.

With Self-Acting Faucet and Brass Couplings Complete; Enameled Inside, and Painted, Bronzed or Marbelized Outside.



Fig. 359



Fig. 360.

With Self-Acting Faucet and Couplings, complete.....	21.00
With Self-Acting Faucet and Couplings, complete, Bronzed outside.....	22.00
With Self-Acting Faucet and Couplings, complete, Marbelized outside.....	25.00

SQUARE SINK.

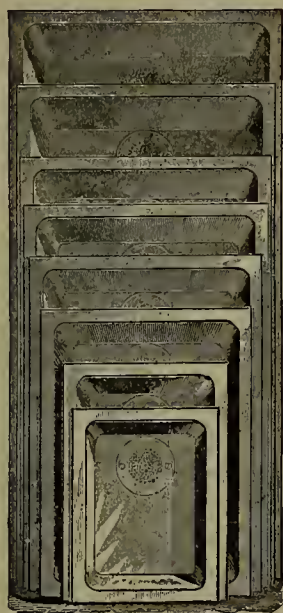


Fig. 361.

SIZE.	DEPTH.	PRICE, PLAIN.	PRICE, GAL- VANIZED.	PRICE, ENAM- ELED.
13 × 19.....	5 in.	\$1 25	\$2 60	4 75
14 × 20.....	6 "	1 50	3 20	6 00
15 × 23.....	6 "	1 70	3 40	6 25
15 × 25.....	6 "	1 75	3 60	6 50
15 × 27.....	6 "	2 00	4 25	7 25
16 × 24.....	6 "	1 80	4 00	6 50
16 × 28.....	6 "	2 10	4 50	7 50
16 × 30.....	6 "	2 25	4 75	7 75
18 × 30.....	6 "	2 50	5 10	8 50
18 × 32.....	6 "	3 00	6 25	9 50
18 × 36.....	6 "	3 00	6 50	9 50
18 × 42.....	6 "	4 00	8 75	11 75
19 × 38.....	6 "	3 80	8 00	11 00
20 × 30.....	6 "	3 00	6 25	9 00
20 × 36.....	6 "	3 70	7 75	10 50
20 × 40.....	6 "	4 00	8 50	11 50
20 × 42.....	6 "	4 25	9 00	12 00
22 × 42.....	6 "	4 25	9 00	12 00
24 × 48.....	6 "	5 75	12 25	15 00
24 × 50.....	6 "	7 50	16 00	18 00

HALF-CIRCLE SINK.

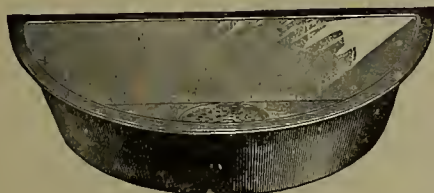


Fig. 362.

NUMBER.	BACK.	WIDTH.	DEPTH.	PRICE, PLAIN.	PRICE, GAL- VANIZED.	PRICE, ENAM- ELED.
1.....	24 in.	14 in.	6 in.	\$1 50	\$3 25	\$6 00
2.....	27 "	14 "	6 "	1 80	3 90	7 00
3.....	28 "	16 "	6 "	2 00	4 50	8 00
4.....	31½"	17 "	6 "	2 25	4 75	9 00

CORNER SINK.

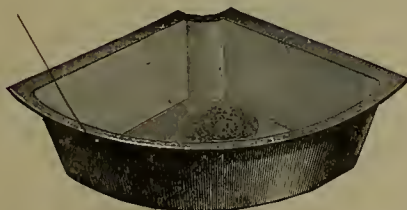


Fig. 363.

NUMBER.	SIDE.	FRONT.	DEPTH.	PRICE, PLAIN.	PRICE, GAL- VANIZED.	PRICE, ENAM- ELED.
1.....	17 in.	25 in.	6 in.	\$1 25	\$2 75	\$6 00
2.....	20 "	28 "	6 "	1 75	3 50	7 00
3.....	22 "	31 "	6½"	2 10	4 20	8 00

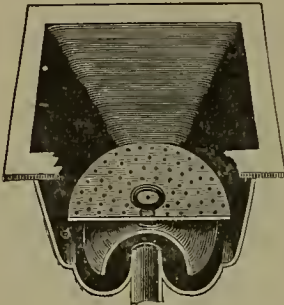


Fig. 364.

HARRIS SLOP SINK.

With Bell Trap.

Size, inches.....	12×12	14×14	16×16
Price each.....	2.00	2.25	2.50

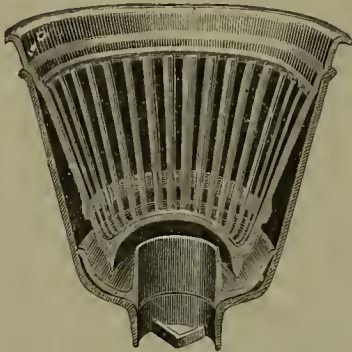


Fig. 365.

PIERCE SLOP HOPPER.

Price each.....	3.50
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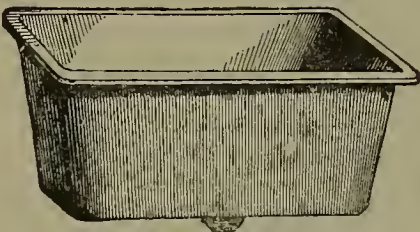


Fig. 366.

SQUARE SLOP SINK.

Size, inches.....	16×16	20×14	24×20
Depth, inches.....	10	12	12
Price, Plain, each.....	2.70	3.50	5.00
Price, Galvanized, each.....	5.25	6.50	9.50
Price, Enameled, each.....	7.50	8.50	11.50

Add, if with Patent Overflow, \$1.00 each; if with Patent Overflow and Plug Strainer, add, for Plain, \$1.20; Galvanized, \$1.25; Enameled, \$1.30, each.

SQUARE SLOP SINK.

With Rounded Corners, and 4 in. Outlet in Center.



Fig. 367.

Size, inches....	20×22
Depth, inches.....	12
Price, Plain, each.....	5.00
Price, Galvanized, each.....	10.00

HYDRANT CESSPOOL.

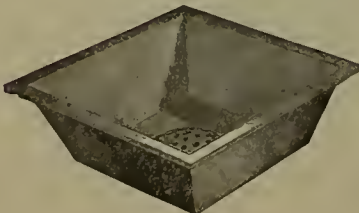


Fig. 368.

Size, inches.....	12×12	14×14	16×16
Depth, inches.....	6	6	6
Price, Plain.....	1.50	1.65	1.80

CESSPOOL, WITH BELL TRAP.



Fig. 369.

STENCH TRAP.



Fig. 370.

Price, 13x13 inches, each...	2.50	Price, each.....	.75
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CESSPOOL PLATES.



Fig. 371.



Fig. 372.



Fig. 373.



Fig. 374.

Size, inches.....	6x8	Size, inches.....	6x6
Price, each.....	.50	Price, each.....	.30

Sink Bolts.



Fig. 375.

Sink Strainer.



Fig. 376.

Plug Sink Strainer.



Fig. 377.

Sink Coupling.



Fig. 378.

Price, per doz....	.40	Plain, per doz....	1.50	Plain, per doz....	3.25	Plain, per doz....	1.50
		Galvanized, doz..	2.60	Galvanized, doz..	5.00	Galvanized, doz..	2.00
		Enameled, doz....	3.00	Enameled, doz....	6.00		

STREET WASHER BOX.

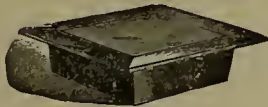


Fig. 379.

STOP COCK BOX.



Fig. 379 1/2.

Price, each	1.25	Price, each.....	.75
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Plumber's address cast on Covers to order.

STRAP SOLDER MOULD.

Half Round Bar.



Fig. 380.

Price, each.....	3.00
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SOLDER POT.



Fig. 381.

Size, inches....	5	6	9	12
Price, each....	.50	.65	1.30	3.00

BOILER STAND.

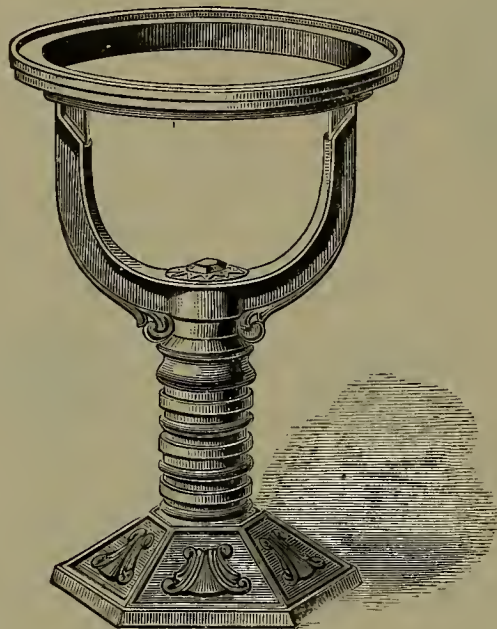


Fig. 382.

SIZE.		PRICE. PLAIN.	PRICE. GALVANIZED.
12 inch Ring, for	18, 24 and 30 gallon Boilers.....	\$1 25	\$2 50
13 " " "	35 gallon Boilers.....	1 30	2 60
14 " " "	40 " "	1 40	2 70
16 " " "	52 and 63 gallon Boilers.....	1 75	3 25
18 " " "	66 gallon Boilers.....	2 00	3 80
20 " " "	82 " "	2 25	4 50
22 " " "	100 and 120 gallon Boilers.....	2 75	5 00
24 " " "	120, 144, 168 and 192 gallon Boilers.....	3 50	6 50

IRON BATH TUB.

With Patent Overflow. Inlets for Supply tapped for Iron Pipe. For Asylum and Hospital Use.

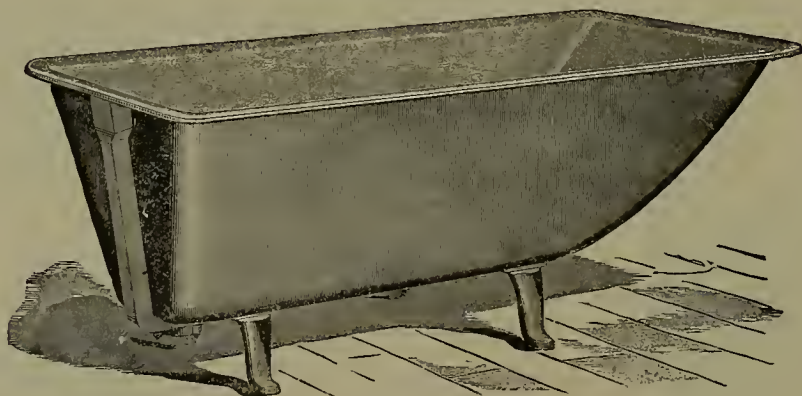


Fig. 383.

No. 1, 5½ feet long, price, Painted, each.....	\$21 50
No. 2, 6 " " " " " "	23 50

PRIVY SINK, WITH PATENT OVERFLOW PLUG.

Painted.

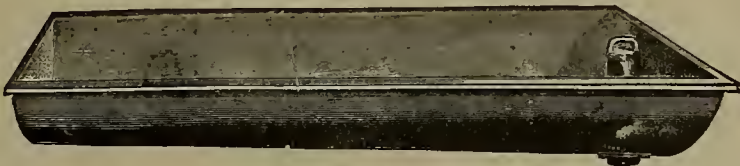


Fig. 384.

Price, 6 feet long, 31 inches wide, 11 inches deep.....	Each	\$30 00
“ 7 “ “ “ “ “ “	“	38 00
“ 8 “ “ “ “ “ “	“	42 00
“ 9 “ “ “ “ “ “	“	46 00
“ 10 “ “ “ “ “ “	“	50 00
“ 11 “ “ “ “ “ “	“	54 00
“ 12 “ “ “ “ “ “	“	58 00
“ 13 “ “ “ “ “ “ in two sections.....	“	75 00
“ 14 “ “ “ “ “ “ “ “	“	79 00
“ 15 “ “ “ “ “ “ “ “	“	83 00
“ 16 “ “ “ “ “ “ “ “	“	87 00
“ 17 “ “ “ “ “ “ “ “	“	91 00
“ 17½ “ “ “ “ “ “ “ “	“	95 00

URINALS FOR PUBLIC PLACES.

Plain, Painted, Galvanized and Enameled.



Fig. 385.

Number	1	2
Length, inches.....	42	48
Price, Plain, each.....	8.00	9.00
Price, Painted, each	9.00	10.00
Price, Galvanized, each	15.00	18.00
Price, Enameled, each	21.00	25.00

CAST IRON SOIL PIPE AND FITTINGS.

SINGLE HUB PIPE.



Fig. 386.

Price, 2 inch, 5 feet long, per foot.....	\$0 24
“ 3 “ “ “	30
“ 4 “ “ “	36
“ 5 “ “ “	50
“ 6 “ “ “	60
“ 7 “ 6 feet long, “	1 00
“ 8 “ “ “	1 25
“ 10 “ “ “	2 00
“ 12 “ “ “	3 00
“ 2 “ Extra Heavy, 5 feet long, per foot.....	35
“ 3 “ “ “ “ “	55
“ 4 “ “ “ “ “	75
“ 5 “ “ “ “ “	1 00
“ 6 “ “ “ “ “	1 20
“ 7 “ “ “ “ “	1 75
“ 8 “ “ “ “ “	2 25
“ 10 “ “ “ “ “	3 00
“ 12 “ “ “ “ “	4 00

DOUBLE HUB PIPE.



Fig. 387.

Price, 2 inch, 5 feet long, each.....	\$1 50
“ 3 “ “ “	1 80
“ 4 “ “ “	2 10
“ 5 “ “ “	2 80
“ 6 “ “ “	3 30

Tarring Pipe, per length, 2-inch, 3c.; 3-inch, 4c.; 4-inch, 5c.; 5-inch, 6c.; 6-inch, 7c.; 7-inch, 9c.; 8-inch, 12c.; 10-inch, 15c.; 12-inch, 20c.

PIPE FITTINGS.

QUARTER BEND.



Fig. 388.

Price, 2 inch, each.....	\$0 40
" 3 " "	55
" 4 " "	65
" 5 " "	1 00
" 6 " "	1 20
" 7 " "	2 25
" 8 " "	3 00
" 10 " "	4 00

QUARTER BEND.

Double Hub.



Fig. 389.

Price, 2 inch, each.....	\$0 70
" 3 " "	85
" 4 " "	95
" 5 " "	1 30
" 6 " "	1 50

QUARTER BEND.

With Two-inch Outlet on Side.



Fig. 390.

Price, 2 inch, each.....	\$0 70
" 3 " "	85
" 4 " "	95
" 5 " "	1 30
" 6 " "	1 50

SIXTH BEND.



Fig. 391.

Price, 2 inch, each.....	\$0 40
" 3 " "	55
" 4 " "	65
" 5 " "	1 00
" 6 " "	1 20

EIGHTH BEND.



Fig. 392.

Price, 2 inch, each.....	\$0 35
" 3 " "	45
" 4 " "	60
" 5 " "	90
" 6 " "	1 05
" 7 " "	2 00
" 8 " "	2 75
" 10 " "	3 75

RETURN BEND.



Fig. 393.

Price, 2 inch, each.....	\$0 65
" 3 " "	85
" 4 " "	1 25
" 5 " "	2 00
" 6 " "	3 00

LONG BEND.



Fig. 394.

Price, 4 inch, 18 inches long in the clear.....	\$1 50
“ 5 “ “ “ “	2 25
“ 6 “ “ “ “	2 50

T BRANCH



Fig. 395

2 × 2.....	\$0 40	6 × 4 }	
3 × 3 }	55	6 × 3 }	\$1 40
3 × 2 }		6 × 2 }	
4 × 4 }		7 × 7 }	
4 × 3 }	65	to }	2 75
4 × 2 }		7 × 2 }	
5 × 5 }		8 × 8 }	
5 × 4 }	1 20	to }	3 25
5 × 3 }		8 × 2 }	
5 × 2 }		10 × 10 }	
6 × 6 }	1 40	to }	6 50
6 × 5 }		10 × 2 }	

CROSS HEAD BRANCH.



Fig. 396.

2 × 2.....	\$0 80	6 × 6 }	
3 × 3 }	1 10	6 × 5 }	
3 × 2 }		6 × 4 }	\$2 50
4 × 4 }		6 × 3 }	
4 × 3 }	1 25	6 × 2 }	
4 × 2 }		7 × 7 }	
5 × 5 }		to }	4 00
5 × 4 }	1 60	7 × 2 }	
5 × 3 }		8 × 8 }	
5 × 2 }		to }	5 00
		8 × 2 }	
		10 × 10.....	8 00

HALF Y BRANCH.



Fig. 397.

2 × 2.....	\$0 60	6 × 6 }	
3 × 3 }	80	6 × 5 }	
3 × 2 }		6 × 4 }	\$2 00
4 × 4 }		6 × 3 }	
4 × 3 }	1 20	6 × 2 }	
4 × 2 }		8 × 8 }	
5 × 5 }		8 × 6 }	
5 × 4 }	1 60	8 × 5 }	5 00
5 × 3 }		8 × 4 }	
5 × 2 }		8 × 2 }	

DOUBLE HALF Y BRANCH.



Fig. 398.

2 × 2	.....\$1 00	6 × 6	
3 × 3		6 × 5	
3 × 2	.....1 25	6 × 4	}\$3 00
4 × 4		6 × 3	
4 × 3		6 × 2	
4 × 2	.....1 65	8 × 8	
5 × 5		8 × 6	
5 × 4		8 × 5	}6 00
5 × 3	.....2 25	8 × 4	
5 × 2		8 × 2	

Y BRANCH.



Fig. 399.

2×2	\$0 60	6×6	}		
3×3			6×5			
3×2	80	6×4		\$2 00
4×4			6×3			
4×3	.....	1 20	6×2		
4×2			7×7	}		
5×5			to		4 00
5×4			7×2			
5×3	.....	1 60	8×8	}	
5×2			to		5 00
			8×2			

DOUBLE Y BRANCH.



Fig. 400.

2 × 2\$1 00	6 × 3	
3 × 3		6 × 2	}\$3 00
3 × 2	.....1 25	7 × 7
4 × 4		7 × 4	
4 × 3		8 × 8	}5 50
4 × 2	.....1 65	8 × 6
5 × 5		8 × 5	
5 × 4		8 × 4	}6 00
5 × 3	.....2 25	8 × 3
5 × 2		8 × 2	
6 × 6		10 × 10	}9 00
6 × 5	.....3 00	to
6 × 4		10 × 2	

OFFSET.



Fig. 401.

2 inch to offset	4 inch	.....\$0 50
2 "	6 "	.....60
2 "	8 "	.....70
2 "	12 "	.....85
3 "	4 "	.....75
3 "	6 "	.....80
3 "	8 "	.....90
3 "	12 "	.....1 00
4 "	4 "	.....85
4 "	6 "	.....1 00
4 "	8 "	.....1 15
4 "	10 "	.....1 25
4 "	12 "	.....1 40
4 "	14 "	.....1 65
4 "	16 "	.....1 80
4 "	20 "	.....2 25
5 "	4 "	.....1 40
5 "	6 "	.....1 60
5 "	8 "	.....1 80
5 "	12 "	.....2 00
5 "	16 "	.....2 40
6 "	4 "	.....2 00
6 "	6 "	.....2 25
6 "	8 "	.....2 40
6 "	12 "	.....2 75

OFFSET.

With 2 inch Outlet.



Fig. 402.

Price, 4 inch to offset 4 inch, each.					\$1 15
"	4	"	6	"	1 30
"	4	"	8	"	1 45
"	4	"	10	"	1 55
"	4	"	12	"	1 70
"	4	"	14	"	1 95
"	4	"	16	"	2 10
"	4	"	20	"	2 55

SINGLE HUB.



Fig. 403.

Price, 2 inch, each.				
"	3	"	"	\$0 25
"	4	"	"	35
"	5	"	"	40
"	6	"	"	60
"	7	"	"	75
"	8	"	"	1 25
"	10	"	"	1 40
"		"	"	2 50

DOUBLE HUB.



Fig. 404.

Price, 2 inch, each.				
"	3	"	"	\$0 30
"	4	"	"	45
"	5	"	"	65
"	6	"	"	75
"	7	"	"	80
"	8	"	"	1 40
"	10	"	"	1 50
"	12	"	"	2 50
"		"	"	5 00

REDUCER.



Fig. 405

Price, 4 inch to 2 inch, each					\$0 50
"	5	"	2	"	70
"	5	"	3	"	
"	5	"	4	"	
"	6	"	2	"	80
"	6	"	3	"	
"	6	"	4	"	
"	8	"	3	"	1 60
"	8	"	4	"	
"	8	"	5	"	
"	8	"	6	"	

THIMBLE.

To Connect Lead Pipe to Iron Soil Pipe.



Fig. 406.

Price, 2 inch, each.				
"	3	"	"	\$0 15
"	4	"	"	25
"	5	"	"	30
"	6	"	"	35
"		"	"	45

STRAIGHT SLEEVE.



Fig. 407.

Price, 2 inch, each.				
"	3	"	"	\$0 30
"	4	"	"	45
"	5	"	"	65
"	6	"	"	75
"	7	"	"	80
"	8	"	"	1 40
"		"	"	1 50

PIPE PLUG.

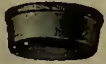


Fig. 408.

Price, 2 inch, each.....	\$0 15
" 3 " "	25
" 4 " "	30
" 5 " "	35
" 6 " "	50
" 7 " "	90
" 8 " "	1 20
" 10 " "	2 00
" 12 " "	3 00

PIPE REST.



Fig. 409.

Price, 2 inch, each.....	\$0 30
" 3 " "	40
" 4 " "	50
" 5 " "	60
" 6 " "	70
" 7 " "	1 00
" 8 " "	1 10
" 10 " "	1 75

PIPE HOOK.



Fig. 410.

Price, 2 inch, each.....	\$0 08
" 3 " "	10
" 4 " "	12
" 5 " "	15
" 6 " "	20
" 8 " "	40

S TRAP.



Fig. 411.

Price, 2 inch, each.....	\$0 80
" 3 " "	1 25
" 4 " "	1 50
" 5 " "	3 00
" 6 " "	3 75

THREE-QUARTER S TRAP.



Fig. 412.

Price, 2 inch, each.....	\$0 80
" 3 " "	1 25
" 4 " "	1 50
" 5 " "	3 00
" 6 " "	3 75

HALF S TRAP.



Fig. 413.

Price, 2 inch, each.....	\$0 80
“ 3 “ “	1 25
“ 4 “ “	1 50
“ 5 “ “	3 00
“ 6 “ “	3 75

RUNNING TRAP.



Fig. 414.

Price, 2 inch, each.....	\$0 80
“ 3 “ “	1 25
“ 4 “ “	1 50
“ 5 “ “	3 00
“ 6 “ “	3 75

S TRAP.

With Outlet in Heel.



Fig. 415.

Price, 4 inch S, each.....	\$2 00
“ “ Half S, each.....	2 00
“ “ Three-quarter S, each.....	2 00

S TRAP.

With Outlet on Side.



Fig. 416.

Price, 4 inch S, each.....	\$2 00
“ “ Half S, each.....	2 00
“ “ Three-quarter S, each.....	2 00

ILLUSTRATION OF FITTINGS.



PRICE LIST OF VITRIFIED, SALT GLAZED SOCKET SEWER PIPE

INSIDE DIAMETER, INCHES.	Straight Pipe, per foot.	Curves and Elbows, each.	Junctions, each.	Traps, each.	Double Junct's and Breeches.	Increasers, Decreasers and Slants.	Weight per foot, pounds.	Number of feet to car-load.
3.....	\$0 15	\$0 50	\$0 60	\$1 70	\$0 90	\$0 45	7	3,500
4.....	20	60	80	2 10	1 20	60	9	2,700
5.....	25	75	1 00	2 50	1 50	75	12	2,000
6.....	30	1 00	1 20	2 90	1 80	90	15	1,600
8.....	40	1 50	1 60	4 00	2 40	1 20	25	1,000
9.....	50	1 75	2 00	5 00	3 00	1 50	30	800
10.....	60	2 10	2 40	6 00	3 60	1 80	35	700
12.....	75	2 75	3 00	8 50	4 50	2 25	45	550
15.....	1 00	3 75	4 00	.....	6 00	3 00	65	400
18.....	1 50	4 75	6 00	.....	9 00	4 50	100	260
21.....	2 00	6 75	8 00	.....	.....	.....	125	200
24.....	2 50	8 00	10 00	.....	.....	.....	180	160

Sizes above 18 inches not governed by the usual discounts.

PRICE LIST OF FIRE BRICK.

No. 1 Square Pressed, per thousand.....	\$30 00
No. 1 Moulded, per thousand	28 00
No. 1 Pressed Arch, per thousand.....	30 00
No. 1 Pressed Key, per thousand.....	30 00
No. 1 Pressed Bullhead, per thousand.....	30 00
No. 1 Circle, per thousand	30 00
No. 1 Soap, Split, Wedge, per thousand.....	30 00
Dry Milled Fire Clay, for Mortar, per barrel.....	2 50
Dry Milled Fire Clay, per ton.....	4 00
Crude Fire Clay, per ton	2 00

RANGE BOILERS.
GALVANIZED AND PLAIN.

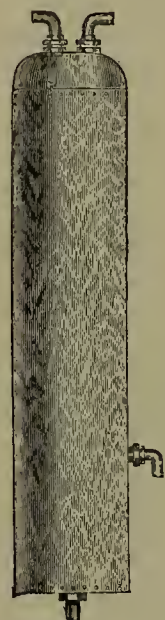


Fig. 417.

CAPACITY.	SIZE.	PRICE, PLAIN.	PRICE, GALVANIZED.
18 gallons.....	3 ft. x 12 in.	\$10 75	\$14 05
21 ".....	3½ " x 12 "	11 55	14 85
24 ".....	4 " x 12 "	12 50	15 75
27 ".....	4½ " x 12 "	13 25	17 50
30 ".....	5 " x 12 "	14 05	19 00
35 ".....	5 " x 13 "	15 75	20 75
36 ".....	6 " x 12 "	19 00	24 35
24 ".....	3 " x 14 "	14 05	19 00
28 ".....	3½ " x 14 "	14 85	19 80
32 ".....	4 " x 14 "	15 75	20 75
36 ".....	4½ " x 14 "	16 50	21 50
40 ".....	5 " x 14 "	18 25	24 00
48 ".....	6 " x 14 "	24 00	29 75
42 ".....	4 " x 16 "	19 00	25 75
47 ".....	4½ " x 16 "	21 75	28 75
52 ".....	5 " x 16 "	23 25	30 00
63 ".....	6 " x 16 "	29 00	38 00
53 ".....	4 " x 18 "	25 00	31 50
66 ".....	5 " x 18 "	28 00	36 00
79 ".....	6 " x 18 "	33 00	44 00
82 ".....	5 " x 20 "	34 00	45 50
98 ".....	6 " x 20 "	42 00	54 00
100 ".....	5 " x 22 "	42 00	54 00
120 ".....	6 " x 22 "	49 00	63 00
120 ".....	5 " x 24 "	47 50	61 50
144 ".....	6 " x 24 "	54 00	70 00
168 ".....	7 " x 24 "	65 00	84 00
192 ".....	8 " x 24 "	75 00	95 00

Four Brass Couplings and Tube for each Boiler, when furnished, \$1.75 net in addition to above prices.

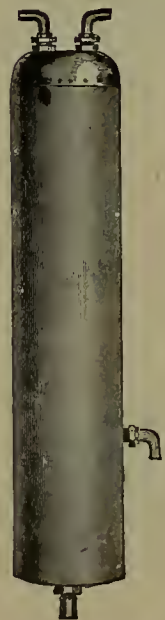


Fig. 418.

COPPER BOILERS.
Heavy Pressure Rivet Head.

CAPACITY.	PRICE EACH.
30 gallons.....	\$26 00
35 ".....	30 00
40 ".....	34 00
45 ".....	39 00
50 ".....	43 00
60 ".....	55 00
70 ".....	63 00
80 ".....	72 00
90 ".....	84 00
100 ".....	92 00

PATENT SEAMLESS RANGE BOILERS.

Copper and Brass.



Fig. 419.



Fig. 420.

For many years efforts have been made to produce a reliable House Boiler, in which the danger of bursting or collapsing, and destruction by rust as in iron, could be overcome. We have succeeded in producing this desired article, and now offer with perfect confidence, our Patent Seamless Range Boilers.

They are made from both Copper and Brass, *and guaranteed to stand a vacuum*, and are all *tested at Two Hundred Pounds* internal pressure to the square inch. The Boiler consists of two seamless shells, with rounded ends to insure greater strength, joined at the center by a long lap joint, which is covered with a wide seamless band. By cupping these shells from the sheet, a uniform thickness, spring temper, and increased tensile strength are obtained. A seamless band is attached to the bottom of the Boiler, which adapts it to any stand in the market. They are coated with tin on the inside, are handsome, durable, and well finished in all respects, and especially designed for first-class residences.

Price, 30 gallon, Copper or Brass, each.....	\$30.00
“ 35 “ “ “	35.00
“ 40 “ “ “	40.00

COPPER GOODS.

COPPER BATH TUB.
5, 5½ or 6 feet long.



Fig. 421.

Outside Width at Head and Foot.....24 inches. | Outside Depth.....19 inches.
Extra Sizes, larger or smaller than above, cost according to Time and Stock.

Weight of Copper, ounces.....	10	12	14	16	18	20
Price, each.....	13.75	15.75	17.75	19.75	21.75	23.75

Zinc Tubs, 5, 5½ or 6 feet, price each.....\$8.00.

FRENCH BATH TUB.
4 feet 6 inches long.

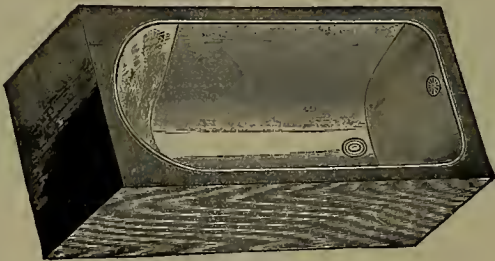


Fig. 422.

Outside Width at Head and Foot..26¼ inches. | Outside Depth.....22 inches.

Weight of Copper, ounces.....	10	12	14	16	18	20
Price, each.....	15.00	17.00	19.00	21.00	23.00	25.00

SEAT TUB.
Size, 24 × 22 inches.



Fig. 423.

Weight of Copper, ounces.....	10	12	14	16
Price, each	9.00	10.00	11.00	12.00

FOOT TUB.
Size, 16 × 20 inches, 10 inches deep.



Fig. 424.

Weight of Copper, ounces.....	10	12	14	16
Price, each.	7.00	8.00	9.00	10.00

SQUARE COPPER PANTRY SINK.

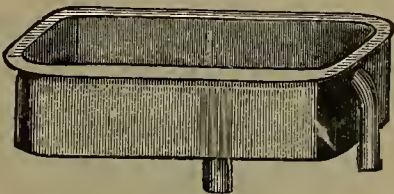


Fig. 425.

Size, inches.....	12 × 18	12 × 20	14 × 16	14 × 20	14 × 24	16 × 24	16 × 30	18 × 30
Price, each.....	4.50	5.00	4.50	6.00	7.00	8.00	10.00	11.00

OVAL COPPER PANTRY SINK.

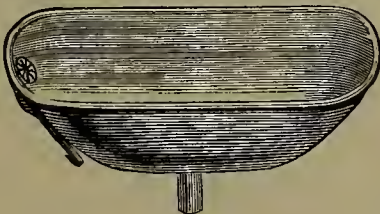


Fig. 426.

Size, inches.....	12 × 18	12 × 20	14 × 16	14 × 20	14 × 24	16 × 24	16 × 30	18 × 30
Price, each.....	5.00	5.50	5.00	6.50	8.00	9.00	11.00	12.00

COPPER BALL.



Fig. 427.

Size, inches.....	5	6	7	8	10	12
Price, per doz.	6.00	7.00	10.50	24.00	48.00	72.00

CLOSET PAN.

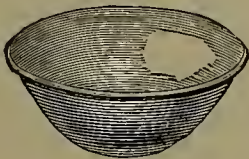


Fig. 428.

Weight, ounces, Copper.....	14	16	18
Price, per doz.....	7.00	8.00	9.00

COPPER ALCOVE.

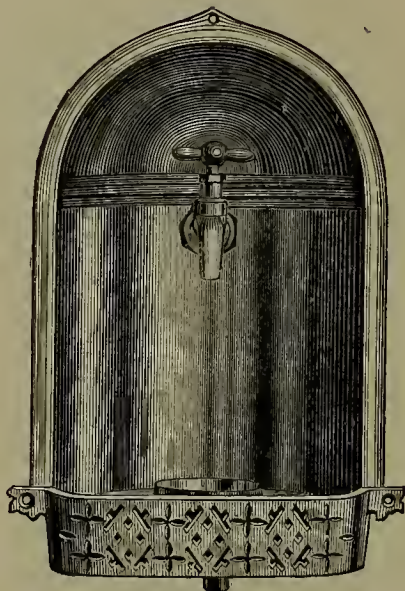


Fig. 429.

Price, No. 1, each.....	\$12.00
“ “ 2, “	9.50

TINNED COPPER SHOWERS.

PLAIN SHOWER.



Fig. 430.

Price per doz.....	\$12.00
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FANCY TUBULAR SHOWER.

WITH FLANGE AND THIMBLE.



Fig. 431.

Price per doz.....	\$32.00
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PLUMBERS' EARTHENWARE.

We would call special attention to our decorated ware, which for variety of design and artistic merit, has never been surpassed in this market.

WASH BASINS. COMMON OVERFLOW.



Fig. 432.

Outside Diameter, inches.....	10	12	13	14	15	16
Price, Marbled, each.....	1.20	1.45	1.55	1.70	2.40	3.00

PATENT OVERFLOW, FOR METAL PLUG.



Fig. 433.

Outside Diameter, inches	12	13	14	15	16
Price, Marbled, each	1.75	1.90	2.20	2.75	3.25

PATENT OVERFLOW, WITH RUBBER PLUG.



Fig. 434.

Outside Diameter, inches ...	12	13	14	15	16
Price, Marbled, including Plug, each.....	1.90	2.10	2.30	3.00	3.50

PANTRY SINK, With Patent Overflow.

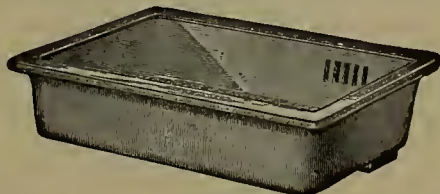


Fig. 435.

Size, inches	20×12	20×14	23×16	24×17	25×17
Price, White, each.....	9.00	9.50	10.50	12.50	13.50

FRENCH CLOSET BOWL.



Fig. 436.

Price, White, each	2.20
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DRIP TRAY BOWL.

Eighteen Inches Square on Top.



Fig. 437.

Price, Marbled, each	10.00
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FLAT BEDFORD URINAL.



Fig. 438.

	LARGE	SMALL.
Size, inches	15½ × 18½	12½ × 16½
Price, each....	7.50	6.50

CORNER BEDFORD URINAL.



Fig. 439.

	LARGE.	SMALL.
Size, inches	12½ × 16½	10 × 14
Price, each....	7.50	6.50

PHILADELPHIA HOPPER.
Earthen.



Fig. 440.

Price, each, White	2.50
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FLUSHING RIM HOPPER.
Earthen.



Fig. 441.

Price, each, White	9.00
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SLAB AND BASIN COMBINED.
SQUARE.



Fig. 442.

Size of Slab, inches.	18 x 18	14 x 14
Inside Diameter of Basin, inches.	11	11
Price, each	9.25	6.00

CORNER.



Fig. 443.

Size of Slab on side, inches.	19	14
Inside Diameter of Basin, inches.	11	11
Price, each	9.25	6.00

ROYAL PORCELAIN BATH.

Molded and Glazed in one piece.

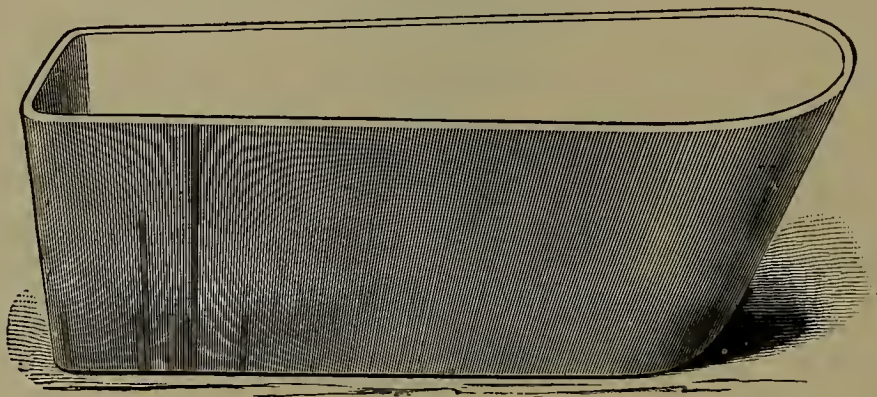


Fig. 444.

OUTSIDE DIMENSIONS.—Length, 5 feet 6 inches; width at head, 2 feet 8 inches; width at foot, 2 feet; depth, 1 foot 11 inches; thickness, 2 inches.

In a sanitary point of view, every thing favorable is to be said of these Baths. They are non-absorbent, clean, and will last a life-time.

Those who can afford and are willing to pay for a first-class article, should call and examine them. A personal inspection will convince any one of their superiority.

Price, each, complete with all Fittings\$200.00.

ALL EARTHEN WASH TRAY.

Ceramic.

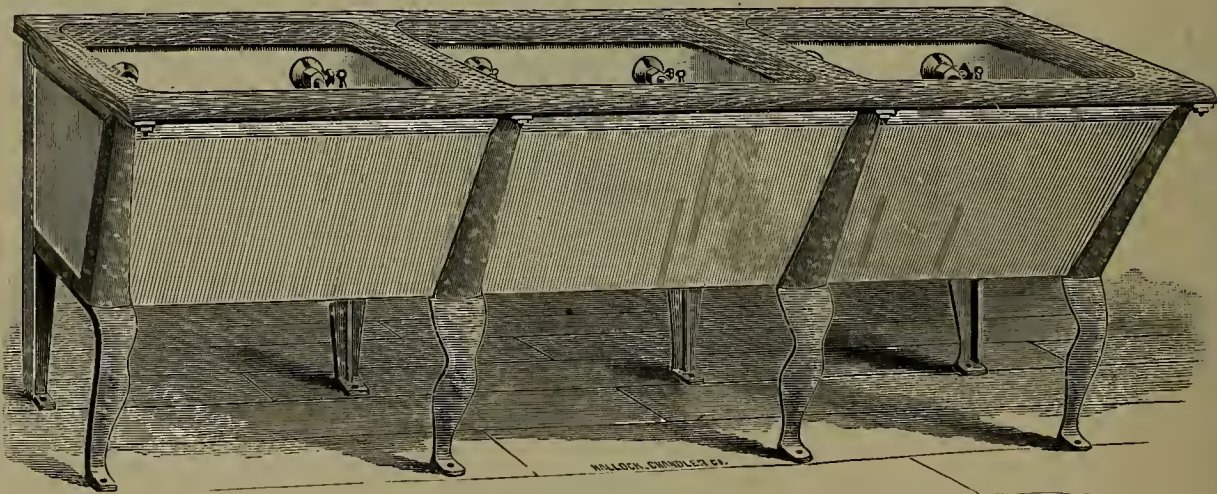


Fig. 445.

The only perfect article of its kind ever produced. It does not absorb dirty water. It is absolutely tight and perfectly free from smell. It does not wear out.

Price, Single Tub, without Fixtures, each	\$20 00
“ Galvanized Iron Stand, for set of 2 Tubs	11 00
“ “ “ “ “ 3 “	15 50
“ “ “ “ “ 4 “	20 00
“ Wood Top, for set of 2 Tubs.....	4 00
“ “ “ “ 3 “	5 50
“ “ “ “ 4 “	7 00

SOAPSTONE WASH TRAY.



Fig. 446

All measurements are outside.

No. Parts.....	2	3
Length.....	4 ft. 6 in.	6 ft.
Width.....	2 ft.	2 ft.
Depth.....	16 in.	16 in.
Price, each.....	30.00	41.00

SOAPSTONE SINK.



Fig. 447.

Length.....	2 ft.	3 ft.	3 ft. 6 in.	4 ft.
Width.....	18 in.	20 in.	22 in.	24 in.
Depth.....	7 in.	7 in.	7 in.	7 in.
Price, each.....	10.00	12.00	13.00	16.00

Other sizes to order.

PLUMBERS' SLABS.

In Italian, American and other Marbles.

All Slabs are made with 8 inch backs, unless otherwise ordered. In ordering, please state marble wanted; whether countersunk or plain, or with one or two cock holes, or chain stay, and what size basin. Backs can be made of any height. In calculating measurements, add one inch for each finished edge.

CORNER SLAB.

With Two Backs.

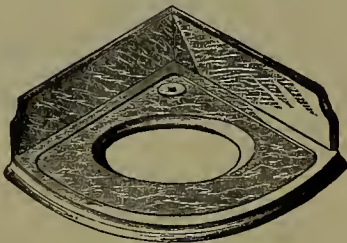


Fig 448.

Size of Slabs, inches.....	18	19	20	21	22	24
Number of feet in Slab.....	4 ft. 10 in.	5 1/4	5 3/4	6 1/4	6 1/2	7 1/2

SQUARE SLAB.

Single Back.

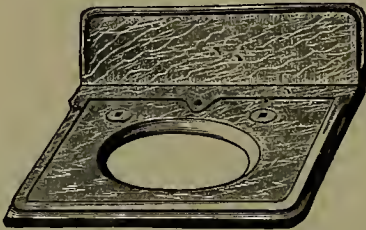


Fig. 449.

Size of Slab, inches.....	19 x 24	19 x 26	20 x 24	20 x 26
Number of feet in Slab.....	5 1/4	5 3/4	5 1/2	6
Size of Slab, inches.....	20 x 28	20 x 30	22 x 30	22 x 36
Number of feet in Slab.....	6 1/2	6 3/4	7 ft. 1 in.	8 1/2

SQUARE SLAB.

With Back and Right Hand End.

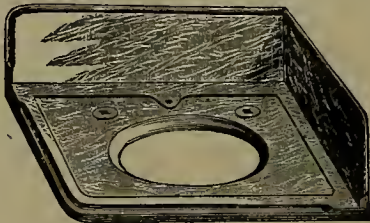


Fig. 450.

Size of Slab, inches.....	20 x 28	20 x 30	22 x 30	22 x 36
Number of feet in Slab.....	7 1/2	7 3/4	8 ft. 2 in.	9 1/2

SQUARE SLAB.—With Back and Left Hand End.



Fig. 451.

Size, inches.....	20 × 28	20 × 30	22 × 30	22 × 36
No. of feet in Slab.....	7½	7¾	8 ft. 2 in.	9¾

RECESS SLAB.—Back and Two Ends.



Fig. 452.

With nosing or end projections, to finish on the wall.

When nosings are made, they are measured to extreme ends, and also one inch for the edge. The Slab can be made without the nosing. These Slabs vary so in size, that a table of measurements would be of no benefit.

MARBLE RADIATOR TOPS.

ITALIAN OR COLORED MARBLE.

OBLONG.



Fig. 453.

Corners rounded to 2½-inch radius (5-inch circle). In measuring, allow for ½, ⅝ or ¾ inch projection all around.

ROUND.



Fig. 454.

In measuring, allow for ½, ⅝ or ¾ inch projection all around

LEAD TRAPS AND BENDS.

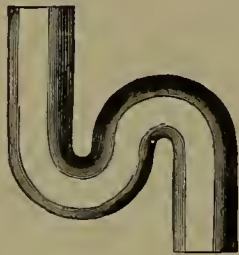


Fig. 455.

FULL S TRAP.

Price, 4 inch, each.....	\$1 90
“ 3 “ “	1 70

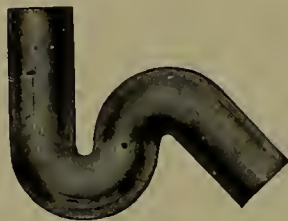


Fig. 456.

THREE QUARTER S TRAP.

Price, 4 inch, each.....	\$1 90
“ 3 “ “	1 70
“ 2 “ “	1 10
“ 1½ “ “	80
“ 1¼ “ “	65

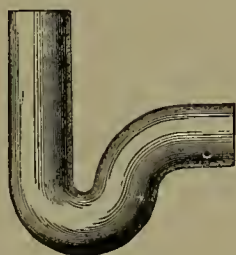


Fig. 457.

HALF S TRAP.

Price, 4 inch, each....	\$1 55
“ 3 “ “	1 35



Fig. 458.

RUNNING TRAP.

Price, 4 inch, each.....	\$2 20
“ 3 “ “	1 70
“ 2 “ “	1 10
“ 1½ “ “	80
“ 1¼ “ “	65



Fig. 459.

FULL S TRAP.

Price, 2 inch, each.....	\$1 10
“ 1½ “ “	80
“ 1¼ “ “	65



Fig. 461.

HALF S TRAP.

Price, 2 inch, each.....	\$1 00
“ 1½ “ “	70
“ 1¼ “ “	55

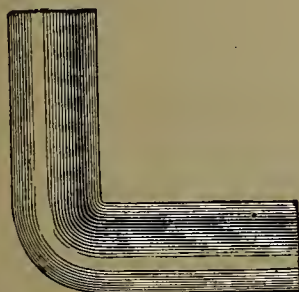


Fig. 462.

LONG LEAD BEND.

Price, 4 inch, each.....	\$1 35
“ 3 “ “	1 00
“ 2 “ “	55
“ 1½ “ “	45
“ 1¼ “ “	40

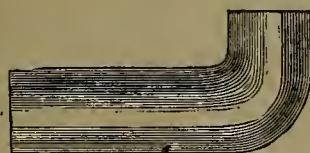


Fig. 463.

SHORT LEAD BEND.

Price, 4 inch, each.....	\$0 90
“ 3 “ “	75
“ 2 “ “	45
“ 1½ “ “	40
“ 1¼ “ “	30

BOWER'S TRAPS.

S Trap.



Fig. 464.

Half S Trap.



Fig. 465.

SIZE.		FULL S.		HALF S.		RUNNING.	
INLET.	OUTLET.	LEAD & GLASS, PRICE EACH.	ALL LEAD, PRICE EACH.	LEAD & GLASS, PRICE EACH.	ALL LEAD, PRICE EACH.	LEAD & GLASS, PRICE EACH.	ALL LEAD, PRICE EACH.
1 inch.	1 1/4 inch.	\$1 00	\$1 20	\$0 95	\$1 15	....	....
1 1/4 "	1 1/4 "	1 05	1 25	1 00	1 20	\$1 10	\$1 30
1 1/4 "	1 1/2 "	1 10	1 30	1 05	1 25	....	....
1 1/2 "	1 1/2 "	1 38	1 63	1 30	1 55	1 40	1 65
1 1/2 "	2 "	1 50	1 75	1 40	1 65	....	....

EXTRAS.

Price, Small Glasses, each	\$0 10
" Large " "	15
" Small Balls, "	10
" Large " "	15
" Small Lead Cups, each.	30
" Large " " "	40

RUBBER COUPLING

For Water Closet Bowls, Urinals, Hoppers, Wash Basins, etc.



Fig. 466.

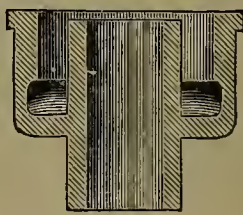


Fig. 467.

SECTIONAL VIEW.

Price, per doz.	1.50
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RUBBER PLUG.



Fig. 468.

Price, Rubber Plugs for Wash Bowls, per doz. \$2.50

Rubber Plugs for Wash Trays and Bath Tubs, size, inches...	1 1/4	1 1/2	2
Price, with Brass Tips and Rings, per doz.	3.00	3.25	4.00
Price, with Plated Tips and Rings, per doz.	3.50	3.75	4.50

PLUMBERS' TOOLS.

RASP.



Fig. 500.

Size, inches.....	10	12	14
Price, each.....	.40	.60	.80

CHISEL.



Fig. 506.

Price, each50
-------------------	-----

FILE.



Fig. 501.

Size, inches.....	10	12	14
Price, half round, each40	.60	.80
Price, flat, each... ..	.40	.60	.80

COUGE.



Fig. 507.

Price, each50
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CHIPPING KNIFE.



Fig. 502.

Size, inches.....	4½	5
Price, each40	.50

COLD CHISEL.



Fig. 508.

Price, each.....	.35
------------------	-----

SHAVE HOOK.



Fig. 503.

Price each.....	.45
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CALKING CHISEL.



Fig. 509.

Price, each.....	.40
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HATCHET COPPER BOLT.

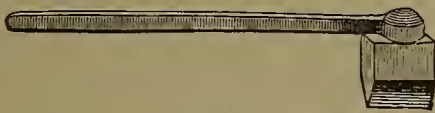


Fig. 504.

Price, per pound40
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FLOOR CHISEL.



Fig. 510.

Price, each.....	2.50
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POINTED COPPER BOLT.



Fig. 505.

Price, per pound.....	.40
-----------------------	-----

ROUND IRON.



Fig. 511.

Number.	1	2	3
Price, each....	.60	.75	.95

Plumbers' Tools.—CONTINUED.

BOXWOOD DRESSER.

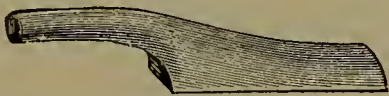


Fig. 512.

Price, each..... 1.00

SIDE EDGE.

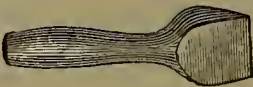


Fig. 517.

Price, each..... .50

PLUMBER'S SAW.



Fig. 513.

Size, inches 12 14
Price, Single Edge, each..... .90 1.00
Price, Double Edge, each..... ... 1.50

TURN PIN.



Fig. 518.

Number..... 1 2 3
Price, each..... .15 .25 .40

COMPASS SAW.



Fig. 514.

Price, each..... .60

BENDING PIN.



Fig. 519.

Price, each..... .25

CUTTING PLYERS.

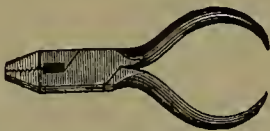


Fig. 515.

Price, each..... 1.25

TAP BORER.



Fig. 520.

Price, each..... .45

HAMMER.



Fig. 516.

Price, each..... 1.00

BASIN WRENCH.



Fig. 521.

Price, each..... 1.25

Plumbers' Tools.—CONTINUED.

SCREW DRIVER.



Fig. 522.

Price, each..... 50

POT HOOK.

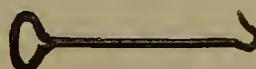


Fig. 528

Price, each..... .15

LADLE.

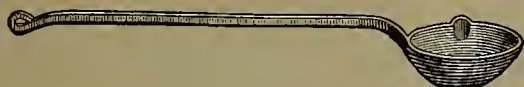


Fig. 523

Size, inches..... 2½ 3 3½ 4 5 6
Price, each..... .30 .40 .45 .50 .65 .90

SOIL CUP.



Fig 529

Price, each..... .40

BOXWOOD RULE.



Fig. 524.

Price, each..... .30

GREASE BOX.



Fig. 530.

Price, each..... 1.25

ANGULAR BORER.



Fig. 525.

Price, each..... 1.75

BLOW PIPE.



Fig. 531.

Price, each..... .75

PATENT RATCHET BRACE.



Fig. 526.

Price, each..... 2.25

TAPE MEASURE.

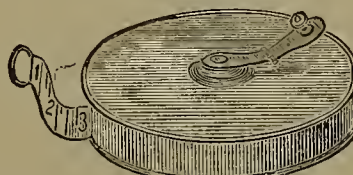


Fig. 532.

Price, each..... 1.50

TORCH.

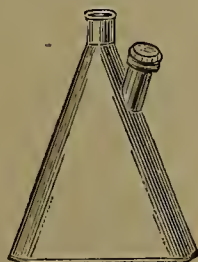


Fig. 527.

Price, Tin, each..... 1.00
" Brass, "..... 1.25
" Galloway Patent, each..... 1.50

COMPASS.

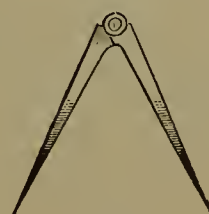


Fig. 533.

Price, each..... .45

Plumbers' Tools.—CONTINUED.

PLUMBERS' FURNACE.

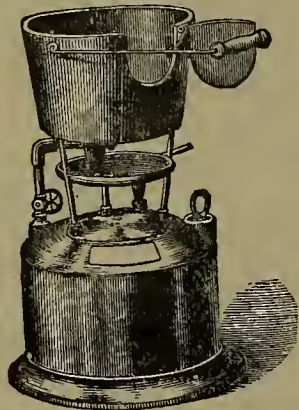


Fig. 534.

Price, each 7.50
Price, Blower extra75

TOOL BAG.



Fig. 538.

Price, each 4.50
" Canvas, each 3.50

PLUMBERS' HOOKS.



Fig. 535.

Price, per lb20

PLUMBERS' FORCE PUMP.

NEW PATTERN STEAM METAL.



Fig. 539.

Price, each 12.00

COPPER WIRE.

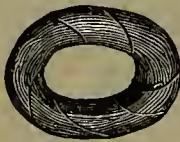


Fig. 536.

Price, per lb50

WASHER CUTTER.

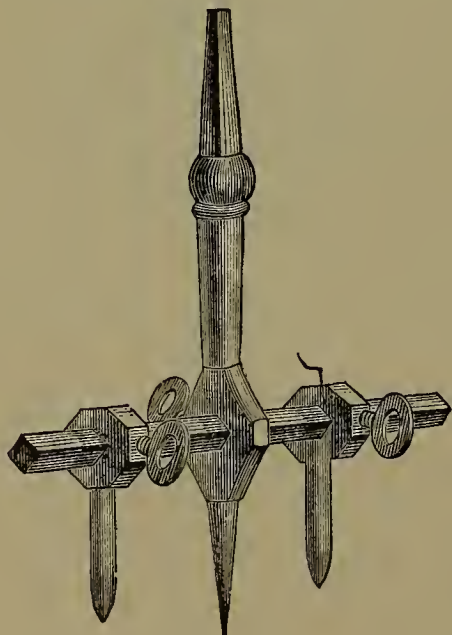


Fig. 537.

Price, each 1.25

PLUMBERS' FORCE PUMP.

STEAM METAL.



Fig. 540.

Price, each 10.00

RUBBER FORCE CUP.



Fig. 541.

Price, No. 1, each50
" " 2, "75
" " 3, " 1.00

BAR SOLDER.



Fig. 542.

Block Solder.

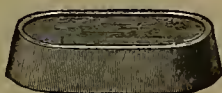


Fig. 543.

Pig Tin.



Fig. 544.

LIST OF SIZES AND WEIGHTS OF LEAD PIPE.

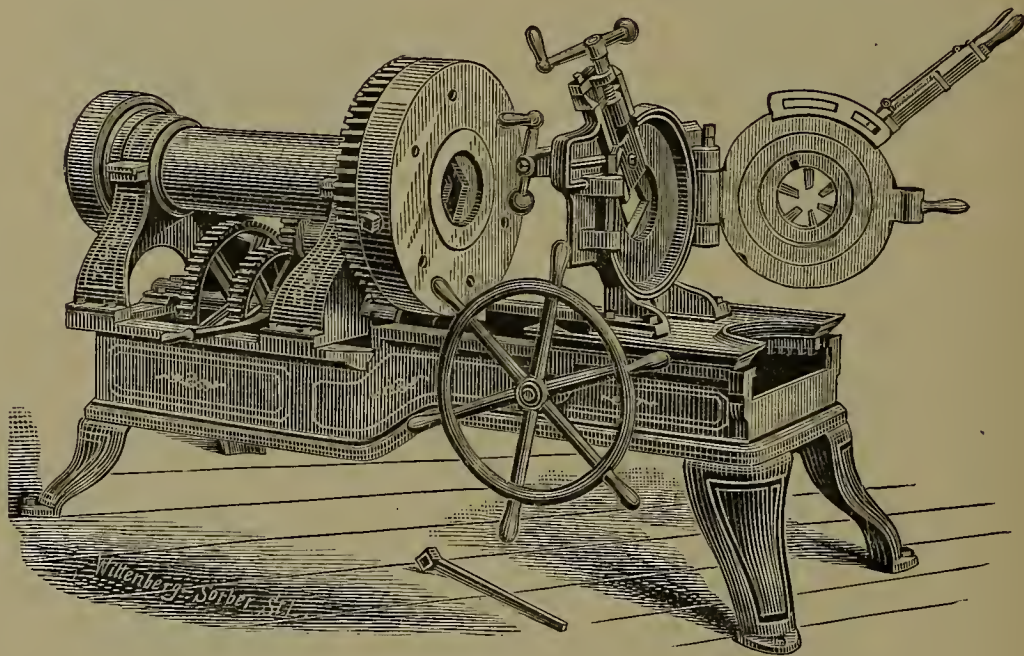
CALIBER.	WEIGHT PER FOOT.	CALIBER.	WEIGHT PER FOOT.	CALIBER.	WEIGHT PER FOOT.
	Lbs. Oz.		Lbs. Oz.		Lbs. Oz.
$\frac{1}{4}$ inch Tubing.....	6	$\frac{3}{4}$ inch Aqueduct.....	1 8	2 inch Waste.....	3
Fish Seine.....	15	Ex. Light.....	2	Ex. Light.....	4
$\frac{3}{8}$ inch Aqueduct.....	8	Light.....	2 8	Light.....	5
Ex. Light.....	9	1 inch Aqueduct.....	1 8	Medium.....	7
Light.....	12	Ex. Light.....	2	Strong.....	8
Medium.....	1	Light.....	2 8	Ex. Strong.....	9
Strong.....	1 8	Medium.....	3 4	Ex. ex. Strong..	10 8
Ex. Strong.....	2	Strong.....	4	$2\frac{1}{2}$ inch Waste.....	4
$\frac{1}{2}$ inch Aqueduct.....	10	Ex. Strong.....	4 12	Light.....	6
Ex. Light.....	12	Ex. ex. Strong..	5 8	3-16 thick.....	8
Light.....	1	$1\frac{1}{4}$ inch Aqueduct.....	2	$\frac{1}{4}$ thick.....	11
Medium.....	1 4	Ex. Light.....	2 8	5-16 thick.....	14
Strong.....	1 12	Light.....	3	$\frac{3}{8}$ thick.....	17
AA.....	2	Medium.....	3 12	3 inch Waste.....	3
Ex. Strong.....	2 8	Strong.....	4 12	Light.....	5
Ex. ex. Strong..	3	Ex. Strong.....	6	3 16 thick.....	9
$\frac{5}{8}$ inch Aqueduct.....	12	Ex. ex. Strong..	6 12	$\frac{1}{2}$ thick.....	12
Ex. Light.....	1 4	$1\frac{1}{2}$ inch Aqueduct.....	3	5-16 thick.....	16
Light.....	1 12	Ex. Light.....	3 8	$\frac{3}{8}$ thick.....	20
Medium..	2	Light.....	4	$3\frac{1}{2}$ inch Waste.....	5
Strong.....	2 8	Medium.....	5	$\frac{1}{4}$ thick.....	15
Ex. Strong.....	3	Strong.....	6	5-16 thick.....	
Ex. ex. Strong..	3 8	Ex. Strong.....	7 8	4 inch Waste.....	5
$\frac{3}{4}$ inch Aqueduct.....	1	Ex. ex. Strong..	9	$\frac{1}{4}$ thick.....	16
Ex. Light.....	1 8	$1\frac{3}{4}$ inch Ex. Light.....	3 12	5-16 thick.....	21
Light.....	2	Light.....	4 8	$\frac{3}{8}$ thick.....	25
Medium.....	2 4	Medium.....	5 8	$4\frac{1}{2}$ inch Waste.....	6
Strong.....	3	Strong.....	6 8	5 inch Waste.....	8
Ex. Strong.....	3 8	Ex. Strong.....	8		
Ex. ex. Strong..	4				

Sheet Lead of following weights. per square foot: $2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5, 6, 7, 8, 9, 10 lbs. and upward.

Pure Block Tin Pipe of all the usual sizes and weights.

PIPE CUTTING, THREADING AND BOLT MACHINE.

PEERLESS NO. 8.



This is a representation of our No. 8 machine. It is fitted with Expanding Dies from 2½ to 8 in., inclusive, and is so arranged that the Dies may be changed without removing the Die Block. The machine can be changed almost instantly, to suit any size of pipe. The Expanding Dies are instantly thrown in or out of place by a lever, thus avoiding the necessity of backing off the thread. It is very compactly built and powerfully geared. Lard Oil only should be used in thread cutting.

We have a No. 8 in constant use, and can cut and thread pipe to 8 inches inclusive. Orders for this class of work solicited.

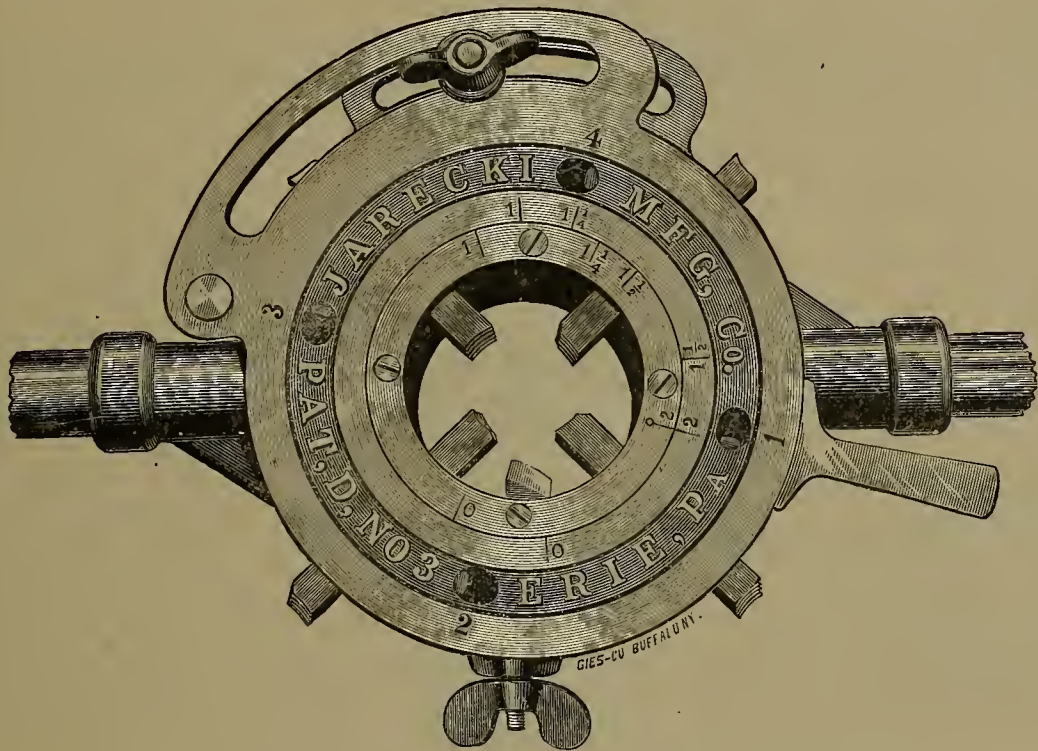
PRICE LIST.

No. 8 Machine complete.....	\$1,200 00
Dies, per set of 6.....	25 00

We are prepared to furnish the Peerless Pipe machines, larger or smaller than above, at bottom prices.

Gas and Steam Fitters' Tools.

JARECKI'S PATENT SCREW PLATE AND PIPE CUTTER.



EACH PLATE REQUIRES ONLY ONE SET OF DIES.

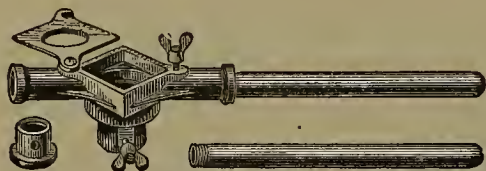
The above represents the best tool in the market for threading and cutting off pipe. Its operation is very simple. The dies can be removed or replaced by giving the round thumb-screw a half turn to the left, which gives free movement to the Cam Plate and allows of its adjustment so as to bring the characters "O" in line. When so adjusted, the holes or openings in the top of the Cam Plate will be directly over the slots in the dies, and the operator will be enabled to see just how to arrange the dies so that the Cams will readily enter the slots. The dies and the pipe-cutting knife are easily removed and sharpened by grinding, and when worn out can be replaced at a small cost.

Another new and important feature in the Jarecki Plate is this: Suppose it is desired to thread a number of pieces of the same size of pipe. Ordinarily, every time a thread is cut the dies must be carefully reset—unless you turn back on the threads, as when using a solid die, which is a very tedious operation—but with the Jarecki Plate, first set the dies to the size of pipe to be threaded, then move the adjustable stud to the right as far as it will go and tighten the lower thumb-nut. This will throw the stud in such a position as to limit the throw of the Cam Plate to the exact point required to bring the dies in position for cutting the thread. When the thread has been cut the Cam Plate can be moved in such a manner as to free the dies from the pipe. Then, to readjust the dies for further work, it is only necessary to move the Cam Plate as far as the stud will permit, and the tool is again ready for use. This simplicity of adjustment is a very important point of superiority in this plate.

No. 1—Threads and Cuts off	$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$	\$14 00
No. 2— " " "	$\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$	16 00
No. 3— " " "	1, $1\frac{1}{4}$, $1\frac{1}{2}$, 2	20 00
No. 4— " " "	$2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4	50 00
No. 5— " " "	$4\frac{1}{2}$, 5, 6	75 00

The Nos. 1, 2, and 3 have Two Handles; No. 4 has Four Handles; No. 5 has Five Handles. Larger Screw Plates and Pipe Cutters made to order.

SCREW PLATES WITH SOLID DIES.



NO. 1 1-2. MALLEABLE STOCK.

No. 1 1/2.....Threads 1/4, 3/8, 1/2, 3/4, and 1 in. Pipe.

Size of Dies.....2 1/2 in. square by 3/4 in. thick.

Price, complete with 5 Dies and Guides.....\$13 00

" Extra Dies, Right or Left, each.....1 75

" " Guides, each.....35

NO. 2. MALLEABLE STOCK.



Die for No. 2 Stock.

No. 2Threads 3/4, 1 and 1 1/4 inch Pipe

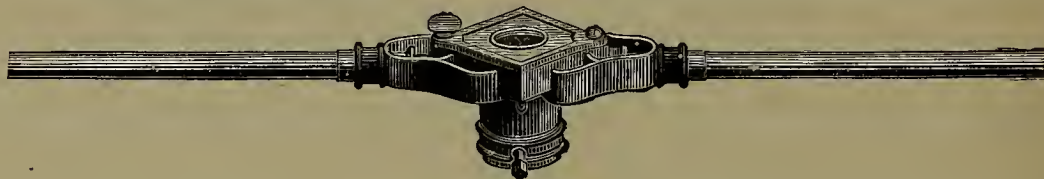
Size of Dies.....3 inches square by 3/4 inch thick.

Price, complete with 3 Dies and Guides.....\$11 00

" Extra Dies, Right or Left, each.....2 10

" " Guides, each.....35

NO. 3. MALLEABLE STOCK, WITH DRIVING SCREW.



No. 3.....Threads 1, 1 1/4 and 1 1/2 inch Pipe.

Size of Dies.....4 inches square by 1 inch thick.

Price, complete with 3 Dies and Guides.....\$18 25

" Extra Dies, Right or Left, each.....3 50

" " Guides, each.....60

(Can furnish 2 in. Dies and Guides for above at same price.)

PIPE TAPS AND REAMERS.



SIZE.	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3		
Taps, each.....	\$1 12	\$1 25	\$1 50	\$1 87	\$2 50	\$3 12	\$3 75	\$4 62	\$6 25	\$10 50	\$15 00
Reamers, ".....	1 25	1 25	1 50	1 87	2 50	3 12	3 75	4 62	6 25	10 50	15 00



ROD STOCK.

FOR THREADING PUMP STOCK ROD.



Three-eighths inch Die cuts fourteen threads to the inch and $\frac{7}{16}$ and $\frac{1}{2}$ inch twelve threads

Price, with $\frac{3}{8}$, $\frac{7}{16}$ and $\frac{1}{2}$ inch Dies.....net \$4 00
" " $\frac{3}{8}$ and $\frac{7}{16}$ inch Dies..... " 3 00

LIGHTNING TAPS AND DIES.



	$\frac{3}{8}$	$\frac{7}{16}$
Die, Tap and Holder	\$3 00	\$3 25
Die only	1 40	1 40
Tap only	75	85

FELTHOUSEN'S PATENT PIPE TONGS AND WRENCHES.



Numbers.....	1	2	3
Takes pipe from	$\frac{1}{8}$ to $\frac{1}{2}$ inch.	$\frac{1}{8}$ to $\frac{3}{4}$ inch.	$\frac{1}{8}$ to 1 inch.
Prices.	90c.	\$1 25	\$1 50

ALLIGATOR WRENCHES.



Numbers.....	1	2	3	4	5
Holds pipe.....	$\frac{1}{8}$ to $\frac{3}{8}$ in.	$\frac{3}{8}$ to $\frac{3}{4}$ in.	$\frac{1}{2}$ to $1\frac{1}{4}$ in.	$1\frac{1}{4}$ to 2 in.	2 to 3 in.
Length—Inches	$5\frac{3}{4}$	10	16	22	27
Prices.. ..	33c	\$1 00	\$2 00	\$3 00	\$4 50

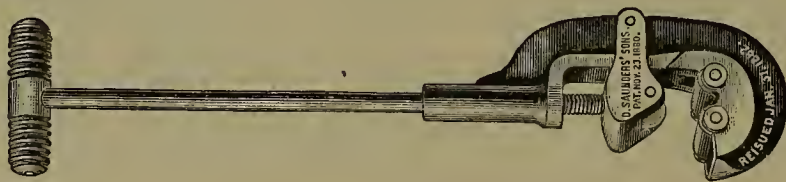
PIPE CUTTERS.

STANWOOD'S PATENT PIPE CUTTER.



Numbers	1	2	3
Cuts pipe from.....	$\frac{1}{8}$ to $\frac{3}{4}$ in. inclusive.	1 to 2 in. inclusive.	2 to 3 in. inclusive.
Prices—Complete	\$3 00	\$4 50	\$14 00
“ Block and Wheel..	50	75	1 25
“ Cutter Wheel.....	15	20	30

SAUNDER'S PATENT WHEEL PIPE CUTTER.



Numbers	1	2	3
Cuts pipe from.....	$\frac{1}{8}$ to 1 in. inclusive.	1 to 2 in. inclusive.	2 to 3 in. inclusive.
Prices—Complete	\$3 00	\$4 50	\$14 00
“ Block and Wheel..	1 25	1 75	3 25
“ Cutter Wheels....	24	32	60
“ Rollers	24	32	50

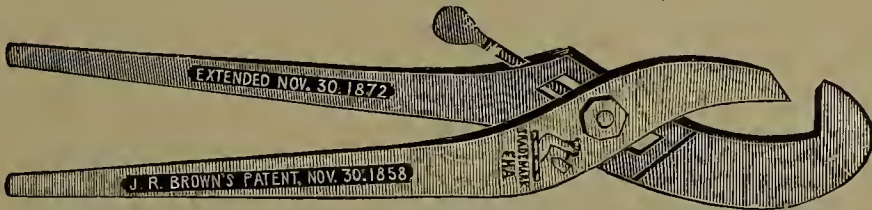
PIPE TONGS.



MADE EXTRA HEAVY AND STRONG.

Size inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6
Price	68	68	72	1 00	1.10	1.30	1.50	1.60	2.00	3.50	4.20	5.00	6.00	7.00	8.00	10.00

BROWN'S ADJUSTABLE PIPE TONGS.



Number	1	$1\frac{1}{2}$	2	3	4	5	6
Takes Pipe from	$\frac{1}{8}$ to $\frac{3}{4}$	$\frac{3}{8}$ to 1	$\frac{1}{2}$ to $1\frac{1}{4}$	1 to 2	$1\frac{1}{2}$ to 3	$2\frac{1}{2}$ to 4	3 to 6
Price	1.50	1.75	2.00	2.75	4.50	9 00	25.00

JARECKI'S ADJUSTABLE TONGS.



Number	1	2	3	4	5
Takes Pipe from	$\frac{1}{8}$ to 1	$\frac{1}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $2\frac{1}{2}$	$\frac{3}{4}$ to $3\frac{1}{2}$	$1\frac{1}{2}$ to 6
Price	3.50	4.00	5.00	9.00	16.00

ROBINS' PATENT CHAIN TONGS.



Number	2	3	4	5	6
Length of Lever	2 ft. 3 in.	3 feet.	4 feet.	5 feet.	6 feet.
Takes Pipe from	1 to 2 in	$1\frac{1}{4}$ to 4 in.	2 to 6 in.	$2\frac{1}{2}$ to 8 in.	4 to 10 in.
Price	5.50	6.25	9.00	12.50	16 00

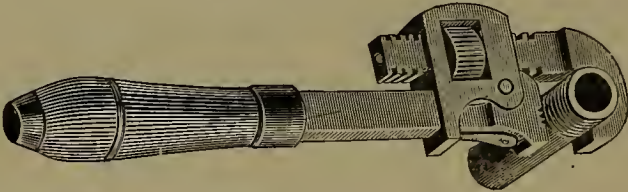
BARNES' PATENT WRENCH



Length open, in inches.....	6	8	10	14	18	24	36	48
Takes from	$\frac{1}{8}$ in. wire to $\frac{1}{2}$ in. pipe.	$\frac{1}{8}$ in. wire to $\frac{3}{4}$ in. pipe.	$\frac{1}{8}$ in. wire to 1 in. pipe.	$\frac{1}{4}$ in. wire to $1\frac{1}{2}$ in. pipe.	$\frac{1}{4}$ in. wire to 2 in. pipe.	$\frac{1}{4}$ in. wire to $2\frac{1}{2}$ in. pipe.	$\frac{1}{2}$ in. pipe to $3\frac{1}{2}$ in. pipe.	1 in. pipe to 5 in. pipe.
Price, each. ..	2 75	3.15	3.55	4.75	6.50	9.50	19.00	28.50

STILLSON'S PATENT WRENCH.

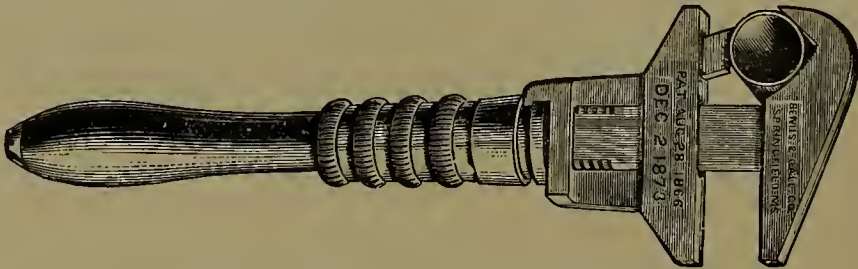
Made of Black Diamond Cast Steel. Pipe is not Crushed by its use.



Length open in inches	6	8	10	14	18	24	36	48
Takes from.....	$\frac{1}{8}$ in. wire to $\frac{1}{2}$ in. pipe	$\frac{1}{8}$ in. wire to $\frac{3}{4}$ in. pipe.	$\frac{1}{8}$ in. wire to 1 in. pipe	$\frac{1}{4}$ in. wire to $1\frac{1}{2}$ in. pipe.	$\frac{1}{4}$ in. wire to 2 in pipe.	$\frac{1}{4}$ in. wire to $2\frac{1}{2}$ in pipe.	$\frac{1}{2}$ in. pipe to $3\frac{1}{2}$ in. pipe.	1 in. pipe to 5 in. pipe.
Price, each	2.75	3.15	3 55	4 75	6.50	9 50	19.00	28.50

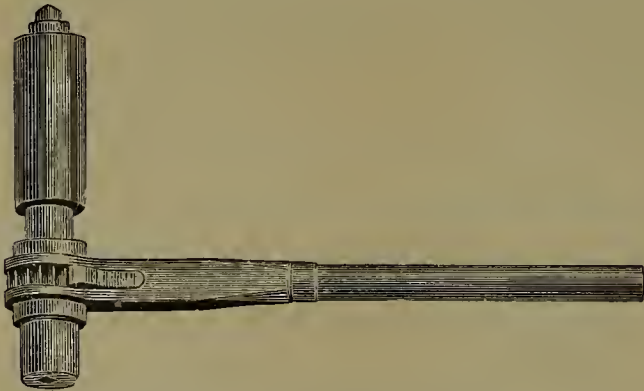
The Six Inch Wrench, with Screw Driver Attachment on end of handle, \$3.90, Nickel Plated.

BEMIS & CALL'S GAS PIPE WRENCHES. WITH LONG NUT.



Bright 10 inch, adjustable to pipe from $\frac{1}{2}$ inch to 1 inch inclusive.....	\$2 25
" 12 " " " " $\frac{1}{2}$ " $1\frac{1}{2}$ " "	2 50
" 15 " " " " " $\frac{1}{2}$ " 2 " "	3 50

PACKER'S PATENT RATCHET DRILLS.



(SLEEVE OR MONITOR PATTERN.)

Numbers	1	2	3	4
Length of Handle, inches ..	10	12	16	18
Price	10.50	13 50	16.00	19 00

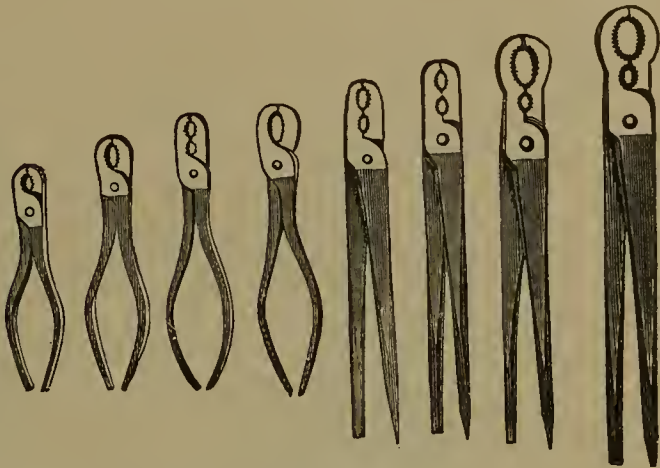
BOILER RATCHETS.



No. 1, Length of Handle 10 inches, price.....	\$9 00
" 2, " " 12 " "	10 50

GAS PLYERS—Huber's.

Size, inches.....	5	6	7	8
Polished, Price, each	75	75	95	1 10
Size, inches.....	9	10	12	14
Polished, Price, each	1 30	1 60	2 10	2 50



BURNER PLYERS—Two Holes.

Size, 7½ inches.....Price, each..\$1 40

GAS FITTERS' AUGERS.



Size of Auger, in...	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	3
Size of pipe, in.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Price, each.....	1 45	1 80	2 00	2 85	3 45	4 00	4 50	5 80	7 20

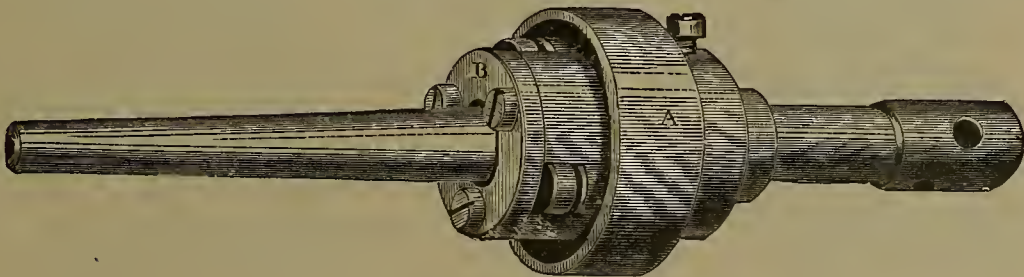
In ordering augers state pipe size.

PROSSER'S SPRING TUBE EXPANDER.



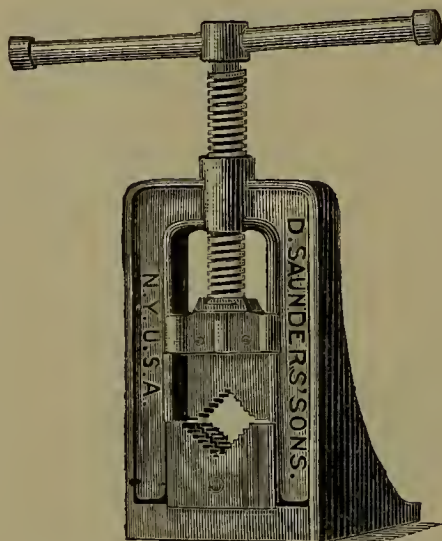
Size of tube, outside, in...	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$
Price, each.....	11 00	11 00	12 50	15 50	16 75	18 00	21 00	25 00
Size of tube, outside, in....	3	$3\frac{1}{4}$	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7
Price, each	31 00	36 00	42 00	46 00	52 00	58 00	83 00	104 00

DUDGEON'S PATENT ROLLER TUBE EXPANDER.



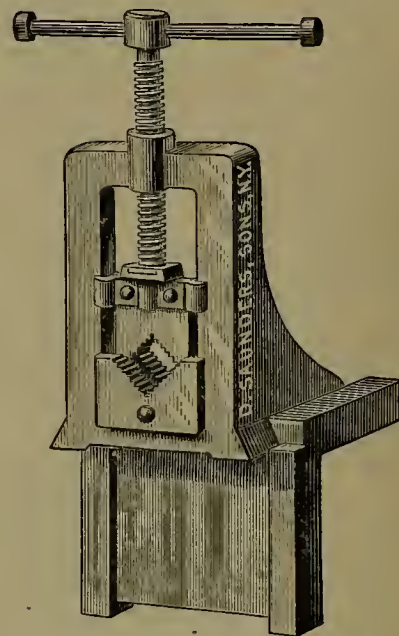
Size of tube, outside, in...	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$
Price, each.....	36 00	36 00	36 00	45 00	54 00	63 00	76 00	87 00
Size of tube, outside, in....	3	$3\frac{1}{4}$	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7
Price, each.....	99 00	108 00	126 00	153 00	180 00	216 00	234 00	324 00

MALLEABLE PIPE VISE.



No. 1 holds pipe from $\frac{1}{8}$ to 2 in., price. \$ 8 00
No. 2 holds pipe from $\frac{1}{4}$ to 3 in., " . 12 00

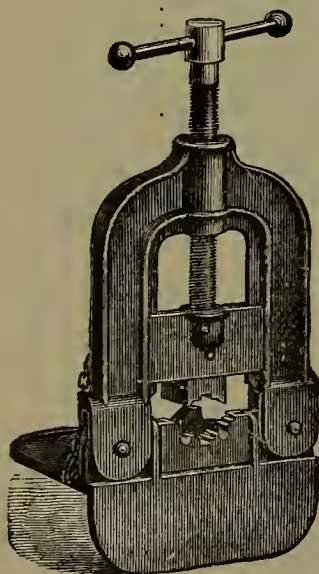
CAST ANGLE PLATE VISE.



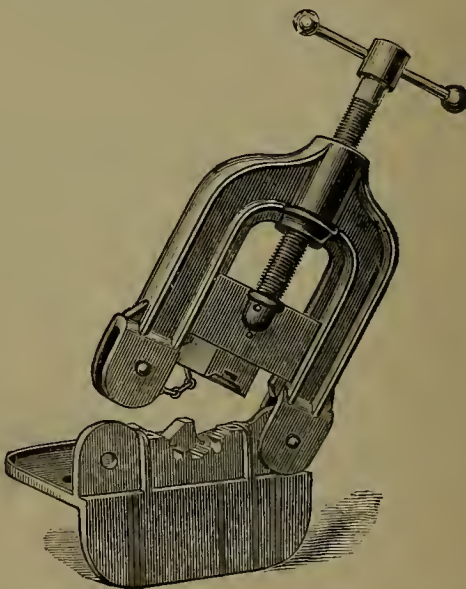
No. 1 holds pipe from $\frac{1}{8}$ to 2 in., price. \$12 00
No. 2 holds pipe from $\frac{1}{4}$ to 3 in., " . 16 00
No. 3 holds pipe from $\frac{1}{2}$ to 4 in., " . 28 00

MALLEABLE PIPE VISE, WITH HINGE.

A Very Strong, Light and Cheap Vise.

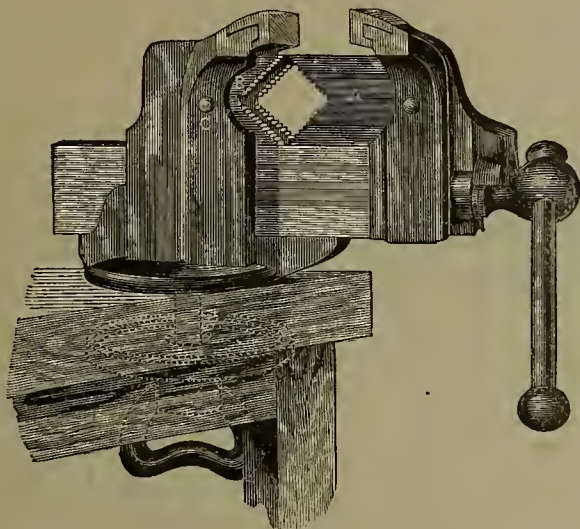


CLOSED.



OPEN.

No. 1 holds pipe from $\frac{1}{8}$ to 2 in., price.....\$10 00
No. 2 holds pipe from $\frac{1}{8}$ to 3 in.. " 13 00



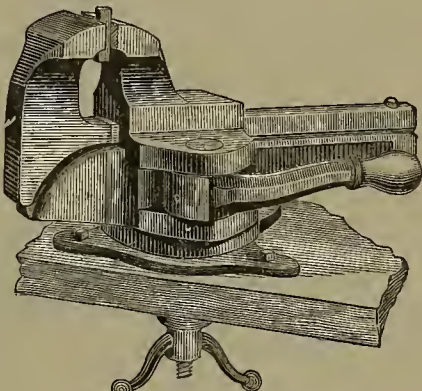
SMITH'S PATENT COMBINATION VISE.

Numbers	1	2
Holds pipe from ...	$\frac{1}{4}$ to 2 in.	$\frac{1}{8}$ to 3 in.
Price	\$16 00	\$20 00

STEPHEN'S PATENT PARALLEL VISE.

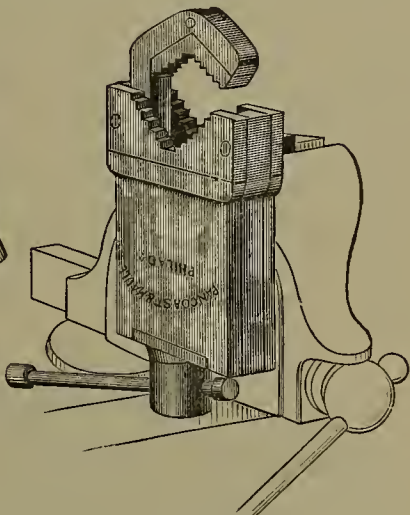
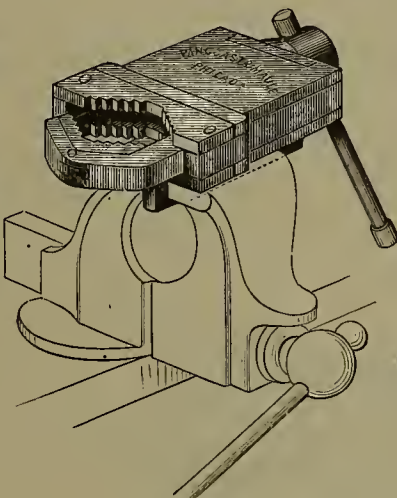
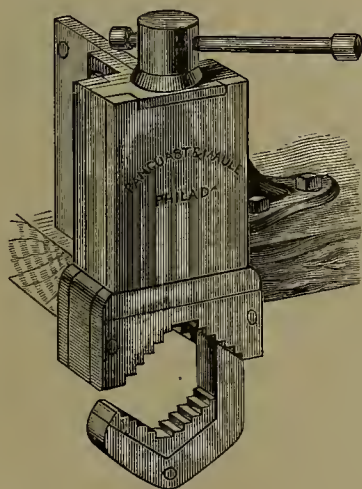
ROUGH AND SMOOTH JAW.

WIDTH OF JAW.	PRICE FLAT VISE.	PRICE SWIVEL VISE.	OPENS.	WEIGHT FLAT VISE.	WEIGHT SWIVEL VISE.
			Inches.	Lbs.	Lbs.
2 inch.....	\$ 3 00	\$ 3 75	2 $\frac{1}{4}$	2	3
2 " Spring.....	3 75	4 50	2 $\frac{1}{4}$	2	3
2 $\frac{3}{4}$ "	5 50	6 50	3	12	14
2 $\frac{3}{4}$ " Spring.....	6 00	7 00	3	12	14
3 $\frac{1}{2}$ "	9 00	10 50	5	35	42
4 $\frac{1}{2}$ "	12 50	14 50	6 $\frac{1}{2}$	60	65
5 $\frac{1}{2}$ " Ext. Hand....	22 00	26 00	9	110	120
6 $\frac{1}{2}$ " " "	33 00	39 00	11	160	175
9 $\frac{1}{2}$ " " "	140 00	150 00	14	380	420



Vise with Swivel Bottom.

IMPROVED PIPE FITTERS' VISE.



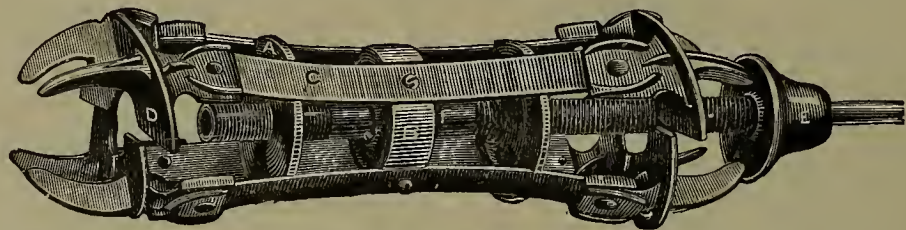
The Box is made of malleable iron, the Screw of wrought iron, and the remainder of solid steel. The Gripping Jaws can be duplicated at any time when worn out.

PRICE.

Vise complete, with Angle Plate, takes $\frac{1}{4}$ to 2 inch Pipe.....\$8 00

DOUBLE-HEADED, DOUBLE-ACTING AND ADJUSTABLE TUBE
CLEANER.

“THE ENGINEER’S FAVORITE.”

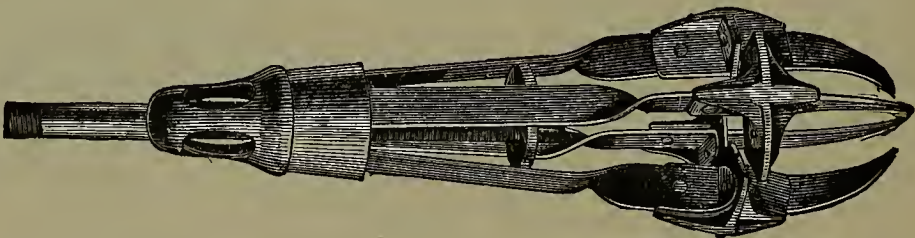


Patented January 29, 1878.

Is strong and durable; has no wire or spiral springs to get out of order. Can be set up while in the tubes to fit tightly, or slackened down to override any uneven surface by turning the handle or rod to which the Cleaner is attached.

Size	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3
Price	\$1 25	\$1 50	\$1 75	\$2 00	\$2 25	\$2 50	\$2 75	\$3 00
Size	3 1/4		3 1/2	4	4 1/2	5	5 1/2	6
Price	\$3 25		\$3 50	\$4 00	\$4 50	\$5 00	\$5 50	\$6 00

NATIONAL STEEL FLUE CLEANER.
THE LATEST AND BEST.



Made of Steel Springs, with an adjustable screw expander that will enable the operator to expand or contract it at will. It can be passed entirely through the tube and withdrawn again without difficulty.

Size	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4
Price, each	\$2 00	\$2 00	\$2 00	\$2 25	\$2 50	\$2 75	\$3 00	\$3 25
Size	3 1/2	3 3/4	4	4 1/2	5	6	7	8
Price, each.....	\$3 50	\$3 75	\$4 00	\$4 50	\$5 00	\$6 00	\$7 00	\$8 00

A. W. ABRAMS’ PATENT EXPANSION STEEL WIRE TUBE AND
FLUE CLEANER.

THE ONLY RIGID EXPANSION BRUSH MADE,



It can be used until the wire is worn out. By removing Nut, then removing Cone, take off the Brush, and by winding a piece of paper around Rod, then replacing them, it expands the disk so it will fit the tube right again without

getting new Brushes. You can repeat this for ten or twelve times. Every Brush warranted. If not satisfactory, can be returned.

Price, \$1.00 per inch. All Brushes less than 2 inches, same as 2 inches.

MUELLER'S Machine for Tapping Water and Gas Mains WHILE UNDER PRESSURE.

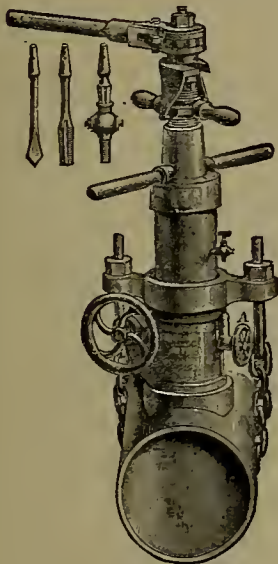


Fig. 545.

Any main can be tapped while under pressure, without losing any water or gas, except what is contained in the cylinder of the machine, which will go out only when the tapping is done and machine taken off the main. The machine, weighing only fifty pounds, can be easily transported, and one man of ordinary intelligence can *tap a main in fifteen minutes*. Its simplicity and practicability recommend it at once to every one interested in gas or water works.

Each machine is furnished with one of each, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ inch Drills, Taps and Plugs for Corporation Cocks, Chain and Wrench ; also four Gaskets, 4, 6, 10 and 12 inch, will be sent, unless otherwise ordered.

In ordering Tapping Machine, please state diameter of pipes used in your city.

Price, each.....\$100.00

MUELLER'S Improved Automatic Water Pressure Regulator.



Fig 546.

This Regulator can be set at any pressure desired in a building, and it will maintain the same, regardless of the highest pressure in the street main.

We absolutely guarantee this Regulator to maintain a uniform pressure in buildings, regardless of the pressure in the mains, such as is produced where the Holly system, or heavy or unsteady pressure is had from Stand-pipe or Reservoir systems.

Using the Regulator, we guarantee a steady and uniform pressure, without any jar to the pipes or any noise usually called "Water Hammer."

Any pressure may be secured that is desired, not exceeding the pressure in the mains, but may be of any less pressure.

The Regulator is simple of construction, and not liable to get out of order, and by attaching it, lighter pipes may be used and more than the expense of the Regulator saved.

No splashing of water from too heavy a pressure ; no bursting of pipes or boilers, caused by excessive pressure or defective plumbing.

A pressure of 20 to 30 pounds, as may be desired, can be maintained in any building, notwithstanding a fire pressure of 120 pounds or more on the mains.

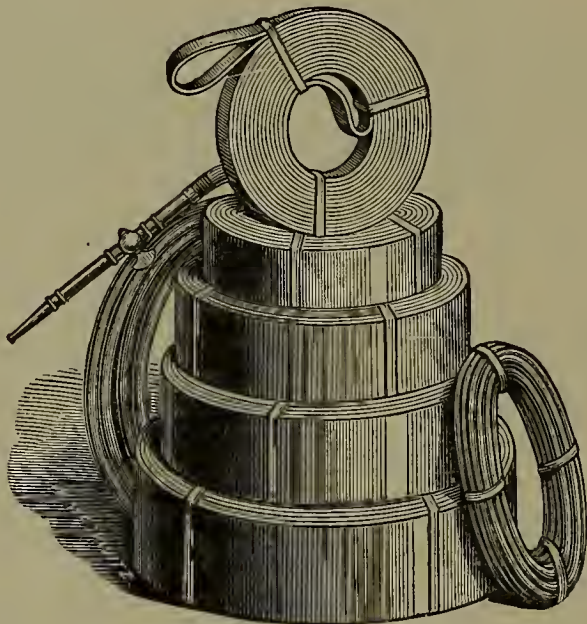
By using this Regulator, an effective pressure for fire purposes is obtained sooner, as the house supply pipes are not filled to a fire pressure.

A Relief Valve is provided for expansion of hot water where a boiler is used, so that at no time there need be more than 20 to 30 pounds, or the amount of pressure desired in the house supply pipes. Every Regulator warranted.

Price, for $\frac{3}{4}$ inch Pipe, each.....\$10.00 | Price, for 1 inch Pipe, each.....\$13.00

BOSTON RUBBER BELTING.

Manufactured by the Boston Belting Co., Boston, Mass.



We have the exclusive agency for this market of THE BOSTON BELTING Co.'s celebrated Rubber Machine Belting, patent stretched, with smooth Metallic Rubber Surface, manufactured under patents Nov. 22, 1859, and Aug. 5, 1873. Our Belting is made of *heavy Cotton Duck*, coated with the best of India Rubber, *patent stretched*, and finished with the *Patent Smooth Surface*; is unaffected by *heat, cold or moisture*, and is preferred for Elevators, Gin-bands, Agricultural Machines, Flouring Mills, and for every other purpose for which Belting is used.

TWO - PLY BELTING.

SIZE.	PER FOOT.	SIZE.	PER FOOT.
1 inch.....	\$0 07	2½ inch.....	\$0 18
1¼ "	09	3 "	22
1½ "	11	3½ "	25
2 "	15	4 "	30

THREE - PLY BELTING.

SIZE.	PER FOOT.	SIZE.	PER FOOT.
1½ inch.....	\$0 15	9 inch.....	\$0 80
2 "	17	10 "	90
2½ "	22	11 "	1 00
3 "	26	12 "	1 08
3½ "	30	13 "	1 18
4 "	34	14 "	1 28
4½ "	39	15 "	1 38
5 "	43	16 "	1 50
5½ "	48	18 "	1 70
6 "	52	20 "	1 90
7 "	60	22 "	2 12
8 "	70	24 "	2 36

Rubber Belting.—CONTINUED.

FOUR-PLY BELTING.

SIZES.	PER FOOT.	SIZES.	PER FOOT.
2 inch.....	\$0 21	10 inch.....	\$1 07
2½ "	26	11 "	1 18
3 "	31	12 "	1 30
3½ "	37	13 "	1 42
4 "	42	14 "	1 54
4½ "	47	15 "	1 66
5 "	52	16 "	1 78
5½ "	57	18 "	2 02
6 "	62	20 "	2 26
7 "	73	22 "	2 52
8 "	84	24 "	2 80
9 "	95		

Intermediate widths, above 6 inches, made at proportionate prices. Heavy Five or Six-Ply Belts made to order at an advance of twenty-five and fifty per cent., respectively, on Four-Ply prices.

ENDLESS BELTS.

Made to order, for which three extra feet will be charged for the splices, and ten per cent. additional on the net price of the whole Belt.

We have always in store a large stock of all widths of Two-Ply Belting up to 4 inches; of Three-Ply up to 12 inches; and of Four-Ply up to 18 inches, inclusive. Other wider sizes made to order at one week's notice.

DIRECTIONS FOR LACING AND USING RUBBER BELTING.

For narrow Belts, butt the two ends together, make two rows of holes in each end (thus obtaining double hold), and lace with lacing leather.

For wide belts, in addition, put a thin piece of leather or rubber on the back, to strengthen the joint, equal in length to the width of the Belt, and sew or rivet it to the Belt. The seam of the Belt should always be on the inside.

In putting on the Belting, it should be stretched as tightly as possible, and with wide belts this can be done best by the use of clamps secured firmly to each end of the Belt, and drawn together by bolts running parallel with and outside the edges of the Belt. There is no danger of breaking, as Belting six inches wide and three-ply thick will stand a direct strain of five thousand pounds, and other sizes in proportion.

The Belts will be greatly improved, and their durability increased, by using

POLAR DRESSING.

The use of this Dressing upon Rubber Belts, applied in small quantities, will increase their driving capacity and prevent them from slipping. Very often, castor oil, rosin or lagging wax is used for the purpose, in which case it will be noticed that the Belts become rough, and an accumulation of gum and rubber, which has been torn from the Belts, collect upon the pulleys, and in a short time the Belts become useless, and have to be replaced by new ones. In the Polar Dressing there is nothing used of a gummy or animal nature, and we guarantee it will not dissolve the rubber or leave any accumulation of gum upon the Belts. It produces a smooth, even surface, so when they come in contact with the pulleys they bind more closely, and enables them to transmit a greater amount of power.

Price per lb., 50c. Packed in 5, 10, 25 and 50 lb. cans.

PURE OAK TANNED LEATHER BELTING.

We guarantee our Leather Belting to be made of PURE OAK LEATHER, tanned expressly for the purpose and properly stretched; and we warrant the same to run truly on the pulley and to do good service.

LEATHER BELTING.

Patent Stretched, Oak Tanned, Cut from Selected Hides.

SIZE.	PER FOOT.	SIZE.	PER FOOT.
1 inch.....	\$0 09	13 inch.....	\$1 53
1¼ inch.....	12	14 inch.....	1 65
1½ inch.....	15	15 inch.....	1 80
1¾ inch.....	18	16 inch.....	1 94
2 inch.....	21	17 inch.....	2 10
2¼ inch.....	24	18 inch.....	2 26
2½ inch.....	27	19 inch.....	2 42
2¾ inch.....	30	20 inch.....	2 58
3 inch.....	33	21 inch.....	2 74
3½ inch.....	39	22 inch.....	2 90
4 inch.....	45	23 inch.....	3 06
4½ inch.....	51	24 inch.....	3 22
5 inch.....	57	26 inch.....	3 56
5½ inch.....	63	28 inch.....	3 90
6 inch.....	69	30 inch.....	4 22
7 inch.....	81	32 inch.....	4 54
8 inch.....	93	34 inch.....	4 86
9 inch.....	1 05	36 inch.....	5 18
10 inch.....	1 17	40 inch.....	5 82
11 inch.....	1 29	44 inch.....	6 46
12 inch.....	1 41	48 inch.....	7 10

DOUBLE LEATHER BELTING.

Double Belt. Double Price.

ROUND LEATHER BELTING.

SIZE.	PER FOOT.	SIZE.	PER FOOT.
1/8 inch.....	\$0 05	1/2 inch.....	\$0 25
3-16 inch.....	09	5/8 inch.....	30
1/4 inch.....	12	3/4 inch.....	38
5-16 inch.....	15	7/8 inch.....	45
3/8 inch.....	20	1 inch.....	53

HEAVY COTTON BELTING.

In successful use. Strength equal to leather. Cost, one-third
of leather.

LIST PRICE.

TWO-PLY.

INCH.	PER FOOT.	INCH.	PER FOOT.
1½.....	\$0 05	3½.....	\$0 09
2	06	4	10
2½.....	07	5	14
3	08	6	18

THREE-PLY.

INCH.	PER FOOT.	INCH.	PER FOOT.
1½.....	\$0 07	7.....	\$0 28
2	09	8.....	32
2½.....	11	9.....	36
3	13	10.....	40
3½.....	15	12.....	50
4	16	14.....	62
4½.....	18	16.....	75
5	20	18.....	86
6	24	20.....	96

FOUR-PLY.

INCH.	PER FOOT.	INCH.	PER FOOT.
4	\$0 21	10.....	\$0 50
4½.....	24	12.....	60
5	26	14.....	75
6	30	16.....	90
7	34	18.....	1 00
8	38	20.....	1 15
9	44	22.....	1 35

ENGINE, HYDRANT AND CONDUCTING HOSE.

Manufactured by the Boston Belting Co., Boston, Mass.

The Two-Ply Hose, or Conducting Hose, is not calculated to stand much pressure. The Three-Ply Hose (used for Hydrants, etc.) is made to stand a pressure of 100 lbs. to the square inch. The Four-Ply Hose (used for Locomotives and for leading Hose for Fire Engines, and other purposes) is made to stand a pressure of 250 lbs. to the square inch. Hose made especially to order for Steam Fire Engines and Steam Pumps, where unusual strength is required.

CONDUCTING HOSE, TWO-PLY.

INTERNAL DIAM.		INTERNAL DIAM.	
½ inch, per foot.....	\$0 20	2¾ inch, per foot.....	\$0 92
¾ " "	25	3 " "	99
1 " "	33	4 " "	1 32
1¼ " "	42	5 " "	1 65
1½ " "	50	6 " "	1 98
1¾ " "	58	7 " "	2 31
2 " "	66	8 " "	2 64
2¼ " "	75	9 " "	2 97
2½ " "	83	10 " "	3 33

HYDRANT HOSE, THREE-PLY.

INTERNAL DIAM.		INTERNAL DIAM.	
½ inch, per foot	\$0 25	2¼ inch, per foot	\$0 90
¾ " "	30	2½ " "	1 00
1 " "	40	2¾ " "	1 10
1¼ " "	50	3 " "	1 20
1½ " "	60	3½ " "	1 40
1¾ " "	70	4 " "	1 60
2 " "	80		

ENGINE HOSE, FOUR-PLY.

INTERNAL DIAM.		INTERNAL DIAM.	
½ inch, per foot	\$0 30	2 inch, per foot	\$1 00
¾ " "	37	2¼ " "	1 12
1 " "	50	2½ " "	1 25
1¼ " "	62	2¾ " "	1 37
1½ " "	75	3 " "	1 50
1¾ " "	87	4 " "	2 00

Five-Ply Hose made to order at an advance of 25 per cent. on prices of Four-Ply.

RUBBER HOSE.

STEAM HOSE.

THREE-PLY.		FOUR-PLY.	
INT. DIAM.	PER FOOT.	INT. DIAM.	PER FOOT.
1/2 inch.....	\$0 43	1/2 inch.....	\$0 51
3/4 "	51	3/4 "	67
1 "	67	1 "	83
1 1/4 "	85	1 1/4 "	1 04
1 1/2 "	1 02	1 1/2 "	1 25
1 3/4 "	1 18	1 3/4 "	1 45
2 "	1 34	2 "	1 66
2 1/2 "	1 66	2 1/2 "	2 08
3 "	2 00	3 "	2 80

For conducting steam we make a superior quality of Hose, and keep in stock Four-Ply in sizes up to 1 1/2 inches, for 35 pounds of steam or less. Other sizes and plies made to order. Wound with Marlin at ten per cent. net of list price additional.

BREWERS' FOUR-PLY HOSE.

	PER FOOT.		PER FOOT.
3/4 inch.....	\$0 67	1 1/2 "	\$1 25
1 "	83	1 3/4 "	1 45
1 1/4 "	1 04	2 "	1 66

This hose is made expressly for Brewers' use; having extra thickness, will not kink, and has great strength and firmness.

SUCTION HOSE,

ON SPIRALLY WOUND GALVANIZED WIRE.

INT. DIAM.	PER FOOT.	INT. DIAM.	PER FOOT.
3/4 inch.....	\$0 70	1 1/2 inch.....	\$1 50
1 "	90	1 3/4 "	1 90
1 1/4 "	1 15	2 "	2 30

LARGE SUCTION HOSE,

ON GALVANIZED IRON SPIRAL WIRE.

INT. DIAM.	PER FOOT.	INT. DIAM.	PER FOOT.
2 1/2 inch.....	\$3 10	6 inch.....	\$ 9 50
3 "	4 00	7 "	12 00
3 1/2 "	4 90	8 "	15 00
4 "	5 80	9 "	17 50
4 1/2 "	6 70	10 "	20 00
5 "	7 60	11 "	22 50
5 1/2 "	8 50	12 "	25 00

We keep in stock up to 4 inches.

HARD RUBBER SUCTION HOSE,

WITHOUT SPIRAL OR BAND. WILL NOT COLLAPSE.

	PER FOOT.		PER FOOT.
3/4 inch	\$0 63	1 3/4 inch.....	\$1 31
1 "	75	2 "	1 50
1 1/4 "	93	2 1/2 "	1 88
1 1/2 "	1 13		

Small sizes kept on hand and cut in any length, as required. Larger sizes made to order with two weeks' notice.

BOSTON BELTING CO.'S FIRE HOSE.

We are prepared to furnish the following grades of Fire Hose coupled with any of the standard couplings at factory prices. The "Excelsior" brand is unquestionably the best Fire Hose made, and is used by the Fire Departments in the leading cities through out the country:

EXCELSIOR, CRESCENT, NIAGARA.

4-Ply, per foot\$1 10 | 5-Ply, per foot\$1 20 | 6-Ply, per foot.....\$1 30
Net prices on application.

SEAMLESS WOVEN COTTON HOSE—Rubber Lined.

One-Ply, Warranted to Stand 300 Pounds Pressure.

SIZE.	PER FOOT.	SIZE.	PER FOOT.
$\frac{1}{2}$ inch.....	\$0 16	$1\frac{1}{2}$ inch.....	\$0 52
$\frac{3}{4}$ "	20	2 "	60
1 "	40	$2\frac{1}{2}$ "	75
$1\frac{1}{4}$ "	46		

UNLINED LINEN HOSE.

INT. DIAM.	PER FOOT.	INT. DIAM.	PER FOOT.
$\frac{3}{4}$ inch.....	\$0 32	4 inch.	\$1 12
1 "	36	5 "	1 35
$1\frac{1}{4}$ "	45	6 "	1 60
$1\frac{1}{2}$ "	54	7 "	2 00
2 "	70	8 "	2 40
$2\frac{1}{4}$ "	75	9 "	2 80
$2\frac{1}{2}$ "	80	10 "	3 20
3 "	90		

Seamless woven, and consequently able to withstand immense pressure. This Hose is used in factories, mills, hotels, and steamboats all over the country.

RUBBER TUBING—In Lengths of Twelve Feet.

PLAIN.		CLOTH INSERTION.	
INT. DIAM.	PER FOOT.	INT. DIAM.	PER FOOT.
$\frac{1}{8}$ inch.....	\$0 08	$\frac{1}{8}$ inch.....	\$0 10
3-16 "	12	3-16 "	14
$\frac{1}{4}$ "	16	$\frac{1}{4}$ "	18
5-16 "	18	5-16 "	20
$\frac{3}{8}$ "	20	$\frac{3}{8}$ "	23
$\frac{1}{2}$ "	25	$\frac{1}{2}$ "	28
$\frac{5}{8}$ "	30	$\frac{5}{8}$ "	33
$\frac{3}{4}$ "	35	$\frac{3}{4}$ "	38
1 "	45	1 "	50

RUBBER VALVE BALLS.

DIAM,	PER DOZ.	DIAM.	PER DOZ
1 inch or less.....	\$1 00	$2\frac{1}{2}$ inch....	\$10 50
$1\frac{1}{8}$ "	1 40	$2\frac{3}{4}$ "	13 00
$1\frac{1}{4}$ "	1 90	3 "	15 50
$1\frac{3}{8}$ "	2 50	$3\frac{1}{4}$ "	19 50
$1\frac{1}{2}$ "	3 25	$3\frac{1}{2}$ "	23 50
$1\frac{5}{8}$ "	4 00	$3\frac{3}{4}$ "	29 25
$1\frac{3}{4}$ "	4 75	4 "	35 00
$1\frac{7}{8}$ "	5 50	$4\frac{1}{2}$ "	54 50
2 "	6 50	5 "	70 00
$2\frac{1}{4}$ "	8 00	6 "	115 00

We manufacture, to order, Valve Balls, harder or softer than the usual make, at special rates.

RUBBER PACKING.

STEAM PACKING.

CLOTH INSERTION—CLOTH ON ONE OR BOTH SIDES.

There is one-ply of cloth to every 1-16 inch thickness. Each cloth, whether insertion or on outside, to count as one-ply.

THICKNESS.	ONE-PLY, PER POUND	TWO-PLY, PER POUND.	THREE-PLY, PER POUND.	FOUR-PLY, PER POUND.
1-64 inch.....	\$0 70	....	....	....
1-32 "	65	....	....	....
1-16 "	60	\$0 63	\$0 66	....
3-32 "	55	58	61	...
$\frac{1}{8}$ " .....	....	55	58	\$0 61
3-16 " .....	....	....	55	58
$\frac{1}{4}$ " .....	....	....	....	55

Three cents per pound additional will be charged for each extra ply of cloth. All Cloth Insertion Packing is one yard wide, and any length desired.

FIBROUS GASKETS OR RINGS.

Thickness, $\frac{1}{8}$ inch or less, per pound..... \$0 90
 Thickness, 5-32 inch and upwards, per pound 80

CLOTH INSERTION GASKETS OR RINGS.

Thickness, 1-16 inch or less, per pound..... \$1 25
 Thickness, 3-32 inch and upwards, per pound..... 1 00

In all sizes above 3-32 there is one-ply of cloth to every 1-16 inch thickness. Each cloth, whether insertion or on outside, to count as one-ply. Five cents per pound additional will be charged for each extra ply of cloth.

ROUND PISTON PACKING.

Made of Cotton Fabric and Rubber Core; from $\frac{1}{4}$ of an inch to $1\frac{1}{2}$ inches diameter, and in lengths of 12 feet, per pound..... \$0 85

SQUARE PISTON PACKING.

Made of Cotton Fabric; from $\frac{1}{4}$ of an inch to $1\frac{1}{2}$ inches square, and in lengths of 12 feet, per pound \$0 85

PURE SHEET RUBBER OR VALVE GUM.

Of superior quality, and all thicknesses, per pound..... \$1 40

PURE RUBBER VALVES, GASKETS, WASHERS, RINGS, ETC.

Per pound \$1 50

STEAM PACKING, ETC.

Hemp Packing, extra, per pound..... \$0 20
 Hemp Packing, No. 1, per pound... 16
 Hemp Packing, No. 2, per pound..... 13
 Hemp Packing, Italian, per pound..... 30
 Empire Packing, with Rubber Core, per pound..... 1 00



JENKINS' PACKING.

IN SHEETS AND GASKETS,

This Packing is Secured by Letters Patent, and All Infringers will be Prosecuted to the Full Extent of the Law.

BEWARE OF IMITATORS AND INFRINGERS. BUY NONE BUT THE GENUINE.

We Claim the Following Advantages Over All Others:

- 1st—It packs a joint better than any packing made.
- 2d—It will stand more heat and pressure, and by being careful in separating the joints, the packing may be used again.
- 3d—It readily accommodates itself to an imperfect surface.
- 4th—It does not rot after being in a joint, but forms what might be termed a metal of itself.
- 5th—In case you want to make the packing thicker and have only thin on hand, by putting two pieces together, placing them in the joint and following it up, they become solid.
- 6th—The scraps may be returned to us, and you will be allowed their value, less the price of re-rolling.

WARRANTED AS REPRESENTED.

Gaskets for Man-Holes, Hand-Holes, Etc., Constantly on Hand.

Directions for Using Jenkins' Patent Sheet Packing.

Place the packing in position and screw the nuts up tight while cold. Let the steam on enough to warm the Packing, which softens it; then follow up the joint gradually until there is no escape of steam.

In cutting bolt holes make them a trifle small.

In packing a steam chest, cut the inside hole one-eighth large all around.

When a joint is to be made that you wish to break without injuring the Packing, the application of Pulverized Soapstone, Plumbago or Chalk will prevent sticking.

After the Packing becomes set, it forms what might be called a metal of itself, and will last for years.

Sheet Packing, 80c. per lb. Gaskets, \$1.00 per lb. Packings for Special Purposes at Short Notice.

ASBESTOS PACKING.

Asbestos, by name, is now very generally known in a superficial way, but few persons, comparatively, have a knowledge of its many wonderful properties and its remarkable adaptability to uses in the arts and sciences.

Asbestos is a mineral, and it belongs to the family of Hornblende, and its special properties may be traced to a peculiar and, as yet, unexplained process of decomposition. The Greek appellation, Asbestos, is given to this mineral on account of its unflammability.

The value of asbestos for packing of various kinds is shown by the following qualities:

1. Its unflammability even at the highest temperature (white heat).
2. Its quality as a non-conductor of heat.
3. Its self-lubricating qualities.
4. Its power of withstanding high pressure and the effect of various acids.

ASBESTOS MILL BOARD.

Pure Asbestos, of the finest quality and strongest fiber, for use in locomotive domes, steam-chest covers, man-holes, hand-holes, cylinder-heads and pipe-joints, flange-joints, acid-joints, etc.

This board has been subjected to the severest tests, and has given entire satisfaction.

It is furnished in sheets, 42x44 inches, from 1-32 to $\frac{1}{4}$ inch thick.

Asbestos Steam Rope Packing, per pound.....	\$0 75
“ Wick “ “ “	1 00
“ Mill Board “ “ “	50

LACE LEATHER.

PAGE'S LACE LEATHER.

Per pound, by the dozen sides..... \$0 80

CUT LEATHER LACING.

1/4 inch, per 100 feet.....	\$1 00	5/8 inch, per 100 feet.....	\$2 75
3/8 " " " "	1 50	3/4 " " " "	3 75
1/2 " " " "	2 00		

RAW HIDE SIDE LACE LEATHER.

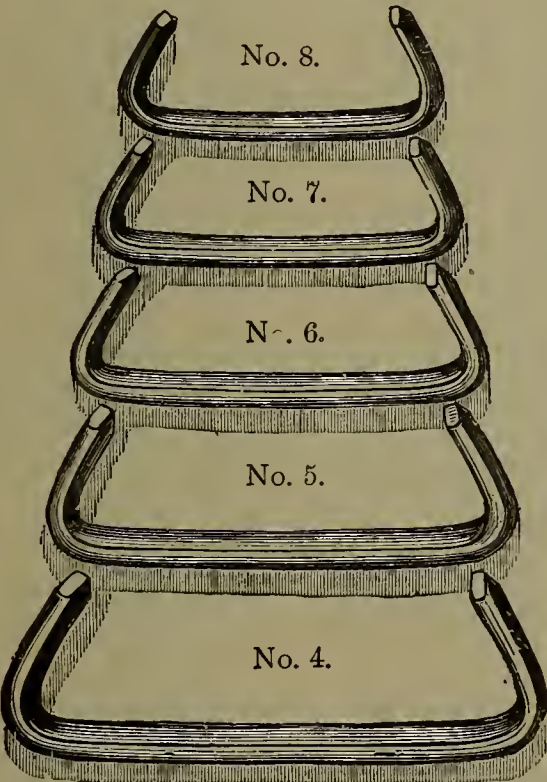
Per square foot \$0 30

RAW HIDE CUT LACING.

1/4 inch, per 100 feet.....	\$1 10	5/8 inch, per 100 feet.....	\$3 00
3/8 " " " "	1 65	3/4 " " " "	3 50
1/2 " " " "	2 50		

We have always on hand a large stock of well-selected Lace Leather, made from best hides and carefully tanned.

In ordering Lace Leather in the side, state whether you want "Light," "Medium" or "Heavy" sides.



POINTED BELT HOOKS.

REVISED PRICE LIST—Per 1,000.

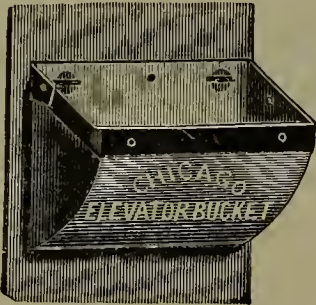
3 inch.....	\$60 00
2½ inch.....	50 00
No. 1	30 00
No. 2	20 00
No. 3	16 00
No. 4	14 00
No. 5	11 00
No. 6 ..	8 50
No. 7	6 00
No. 8	5 00
No. 9	4 00
No. 10	3 50
No 11	3 00
No 12	2 80
No. 13	2 60
No. 14	2 46
No. 15	2 00

BELT PUNCHES.

Numbers	5	6	7	8	9	10
Each	\$0 20	\$0 25	\$0 25	\$0 30	\$0 35	\$0 40

ELEVATOR BUCKETS AND BOLTS.

Common Sense and Chicago Buckets, for Mills, Elevators and Warehouses.

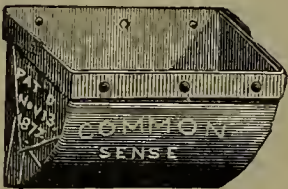


PRICE LIST OF THE CHICAGO ELEVATOR BUCKET.

WIDTH ON BELT.	PROJEC- TION.	PRICE, CENTS.	WIDTH ON BELT.	PROJEC- TION.	PRICE, CENTS.
2	x 2	6	4	x 3	11
2½	x 2½	7	4½	x 3½	13
3	x 3	8	5	x 4	15
3½	x 3	9	6	x 4	17

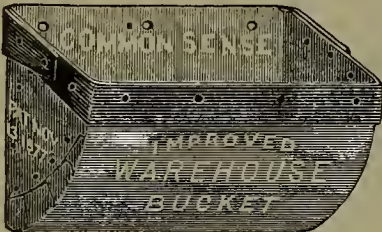
Bodies and ends exclusively of tin.

PRICE LIST OF THE COMMON SENSE ELEVATOR BUCKET.



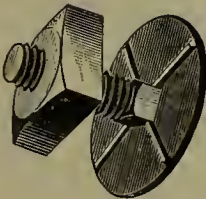
TIN.			IRON.		
WIDTH ON BELT.	PRO- JEC- TION.	PRICE, CTS.	WIDTH ON BELT.	PRO- JEC- TION.	PRICE, CTS.
2	x 2	6	6	x 4	17
2½	x 2½	7	7	x 4½	21
3	x 3	8	8	x 5	25
3½	x 3	9	9	x 5	27
			10	x 5½	30
			11	x 6	33
4	x 3	11	12	x 6	36
4½	x 3½	13	14	x 6	42
5	x 4	15	16	x 6	50
			18	x 6	60
			20	x 6	65

PRICE LIST OF BUCKETS FOR EAR CORN.



WIDTH ON BELT.	PROJEC- TION.	PRICE, CTS.	WIDTH ON BELT.	PROJEC- TION.	PRICE, CTS.
9	x 6	33	14	x 7	54
10	x 6½	36	15	x 7	58
11	x 7	42	16	x 7	62
12	x 7	48	18	x 7	66
13	x 7	52	19	x 7	70

THE CORRUGATED BELT BOLT.

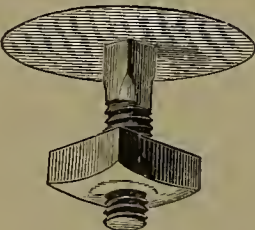


This bolt has been before the public so long, and is so well and favorably known, that little description is necessary. It is made of the finest grade of Norway Wrought Iron, imported expressly for the purpose. The head is provided with a corrugation which serves to hold the belt while the nut is screwed on, and also enables the head to be drawn into the belt, so as to be flush with the surface when it comes in contact with the revolving pulley. The success of this bolt has been positive from the first moment of its introduction, and its sale is largely on the increase.

PRICE LIST.

1 x 1½ inch, per 100	\$1 25
¾ x 1½ " " "	1 00
½ x 1½ " " "	1 00
¼ x 1½ " " "	1 00

THE EXCELSIOR WROUGHT-IRON FLAT-HEAD ELEVATOR BOLT.



In addition to the Corrugated Bolt, we handle a forged wrought-iron Elevator Bolt of the style indicated in this cut. This bolt is forged from the best quality of Norway iron, and possesses unusual strength. The head is flat and of large diameter, thus affording a great bearing surface on the belt and preventing the bolt from slipping through under any circumstances. This description of bolt is much used in large mills and other establishments where bolts are subjected to extraordinary strain.

PRICE LIST.

¾ x 1½ inch, per 100	\$1 50
1 x 1½ " " "	1 75

GENUINE GOSHEN WOOD PUMPS.

Price List Adopted December 7 '882. Superseding all Previous Lists.

NO. 0 STOCK PUMPS

Are made *full seven inches square*, 4 inch bore, 10 inch stroke ; capacity, 80 gallons per minute. Use "No. 0" Tubing, 4½ inches square, 2 inch bore. (Can use "No 1," 4 inch Tubing.) These Pumps are particularly adapted to the wants of Farmers and Stock Men using large quantities of water.

Porcelain Lined, 6 ft long....	\$7 20	Porcelain Lined, 12 ft. long, Ex-	
" " 7 "	7 70	tension Cylinder.....	\$9 00
" " 8 "	8 20	Without Lining, 6 ft. long....	5 20
" " 10 "	9 50	" " 7 "	5 70
" " 12 "	10 80	" " 8 "	6 20
" " 10 " Exten-			
sion Cylinder.....	8 40		

NO. 1 HOUSE PUMPS.

THE "GENERAL FAVORITE."

These Pumps are made *full six inches square*, 3½ inch bore, 9 inch stroke ; capacity, 60 gallons per minute. Use "No 1," 4x4 Tubing, with 1½ inch bore. This is a "general purpose" Pump, is made in all lengths, and particularly suited for Extension Pumps, in which case we use 3 inch bore cylinder, lessening the *quantity* of water thrown at each stroke, but rendering it *easier* to operate.

Porcelain Lined, 6 ft long....	\$6 50	Porcelain Lined, 40 feet long,	
" " 7 "	6 85	Extension Cylinder	\$16 70
" " 8 "	7 20	Porcelain Lined, 45 feet long,	
" " 10 "	8 30	Extension Cylinder	18 20
" " 12 "	9 40	Porcelain Lined, 50 feet long,	
Porcelain Lined, 10 ft. long, Ex-		Extension Cylinder	19 70
tension Cylinder....	7 70	Porcelain Lined, 55 feet long,	
Porcelain Lined, 12 feet long,		Extension Cylinder	21 20
Extension Cylinder	8 30	Porcelain Lined, 60 feet long,	
Porcelain Lined, 15 feet long,		Extension Cylinder	22 70
Extension Cylinder	9 20	Without Lining, 6 feet long..	4 50
Porcelain Lined, 20 feet long,		" " 7 "	4 85
Extension Cylinder	10 70	" " 8 "	5 20
Porcelain Lined, 25 feet long,		" " 10 "	6 30
Extension Cylinder	12 20	" " 12 "	7 40
Porcelain Lined, 30 feet long,		Without Lining, 10 feet long,	
Extension Cylinder	13 70	Extension Cylinder	5 70
Porcelain Lined, 35 feet long,		Without Lining, 12 feet long,	
Extension Cylinder	15 20	Extension Cylinder	6 30

NO. 2 CISTERN PUMPS

Are made *full five inches square*, 3 inch bore, 8 inch stroke ; capacity, 40 gallons per minute. Use "No. 2" Tubing, 3½ inches square, 1½ inch bore. Are specially adapted to cisterns or shallow wells, where moderate quantity of water is required. Work very easily.

Porcelain Lined, 6 ft. long....	\$5 75	Without Lining, 6 ft. long....	\$3 75
" " 7 "	6 00	" " 7 "	4 00

DRIVE WELL PUMPS

Are a specialty with us. We use the No. 1 House size of Pump, any length, fitted with the best turned Iron Cylinders, to fit any size pipe. They are rapidly supplanting the Iron Drive Well tops, being so much less liable to freeze, easier to operate and keep in repair.

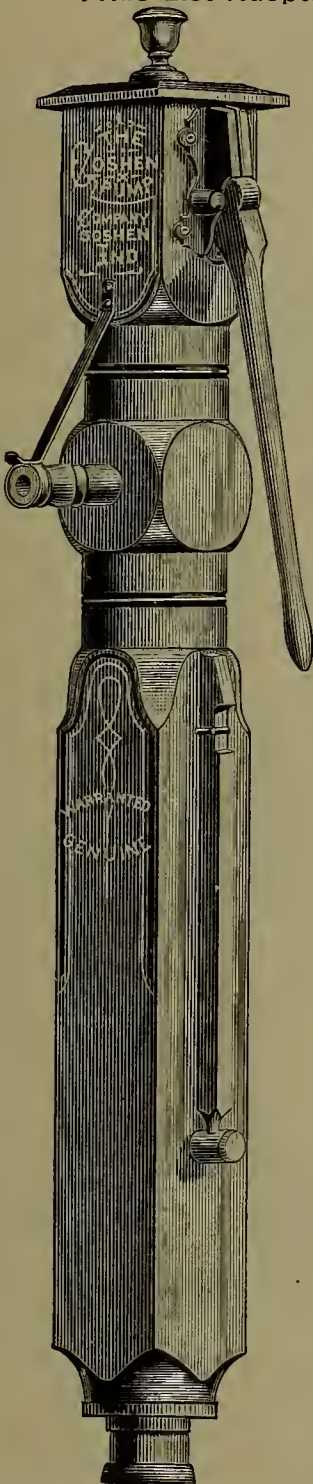
No. 1 House, 6 feet long, Iron Cylinder attached	\$6 75
" " 7 " " " " "	7 10
" " 8 " " " " " "	7 45

TUBING AND COUPLINGS.

No. 0 Tube, 4½x4½, per foot (Stock Pump)....	\$0 15	Couplings for No. 0 Tubing, with Bands....	\$0 40
" 1 " 4x4, " (House Pump)....	12	" " 1 " " " "	40
" 2 " 3½x3½, " (Cistern Pump)....	10	" " 2 " " " "	30
Extension Tubing, 6x6, pr.ft.(Deep Well Pump)	30		

EXTRAS.

Extra Iron Spouts, Japanned.....each,	\$0 30	Extra Plungers, Woods.....each,	\$0 25
" Wood Spouts.....	15	" " Leathers.....	25
" Braces for Wood Spouts	15	" Handles	30
" Iron Brackets	30	" Handle Links	25
" Plungers, 4 inches.....	75	" Bands	10
" " 3½ "	65	" Check Valves	per doz. 1 50
Extra Plungers, 3 inches.....	55		



GENERAL WESTERN AGENCY

FOR

SILVER & DEMING M'F'G. CO.'S

PUMPS AND HYDRAULIC MACHINERY.

TO THE TRADE.

As the General Western Agents of the Silver & Deming M'f'g. Co. we shall at all times carry a complete line of their Pumps. The marked favor with which these goods have been received since we have represented them enable us to unhesitatingly pronounce them the most desirable line of Pumps known to the trade.

ENGLISH BROTHERS.

REMARKS.

For the benefit of those not familiar with Pumps, we offer in this connection a few general remarks on the subject.

The necessary parts of a Pump are the Cylinder, Plunger, Check-valve, and Suction or Connecting Pipe; and in order that a Pump may do its work properly, all these parts should be in perfect order. The Cylinder should be bored true, and should be air-tight; and the Plunger should fit it accurately; so that it will make a vacuum as nearly perfect as possible. For cold water, the Bottom or Check-valve should be made of leather or rubber, or of a combination of these materials.

The Suction Pipe is the pipe reaching from the Cylinder to the water, and to have the Pump work properly, should be air-tight. The Suction Pipe should be about one-half the diameter of the Cylinder, and the Discharge Pipe may be smaller in a Single-Acting Pump, but in a Double-Acting Pump ought to be the same size.

Water can not be raised *successfully* by suction more than 20 to 25 feet, although the theoretical distance is 33.94 feet. The Suction Pipe may extend horizontally almost any distance, if air-tight; we recommend the use of a Check or Foot-valve, with a long vertical or horizontal Suction Pipe.

Turns and Elbows are to be avoided in the Suction or Discharge Pipe, as they cause considerable friction, and add to the power required to operate the Pump.

For pumping hot water or liquids, the Pump should be fitted with metal valves, and should be placed as near the supply as possible, in order to force it upward instead of raising it by suction. Hot water or liquids can not be raised any distance by suction, as the vapor or steam rises into the Pump, instead of the liquid.

To operate a Double-Acting Pump, twice the power is required that it takes to work a Single-Acting Pump, but double the amount of water will be discharged. We give the following rule for calculating the capacity of a piston pump :

RULE.

Multiply the area of the bore of the Cylinder by the length of the stroke, and the result by the number of strokes per minute, which gives the quantity of water in cubic inches. Divide the number of cubic inches by 231, the number of cubic inches in a gallon, and the result will be the capacity of the Pump per minute in gallons. Multiply this result by 2 for a Double-Acting Pump.

To determine the power required, multiply the number of gallons per minute by 8.35, the weight of one gallon of water, and the result by the number of feet the water is raised, which will give the power in foot-pounds. Divide the number of foot-pounds by 33,000, which will give the "horse-power" required to do the work. This will give the theoretical power; in practice, a discount should be made for friction and other causes.

With the aid of the following Table, the capacity of a Pump and the power required to operate the same can be readily calculated.

TABLE CONTAINING THE DIAMETERS AND AREAS OF CIRCLES FROM 2 TO 12 INCHES.

DIAMETER.	AREA.	DIAMETER.	AREA.	DIAMETER.	AREA.
2 inches.	3.1416	5 $\frac{1}{2}$ inches.	23.758	9 inches.	63.617
2 $\frac{1}{4}$ "	3.9760	5 $\frac{3}{4}$ "	25.967	9 $\frac{1}{4}$ "	67.200
2 $\frac{1}{2}$ "	4.9087	6 "	28.274	9 $\frac{1}{2}$ "	70.882
2 $\frac{3}{4}$ "	5.9395	6 $\frac{1}{4}$ "	30.679	9 $\frac{3}{4}$ "	74.662
3 "	7.0686	6 $\frac{1}{2}$ "	33.183	10 "	78.540
3 $\frac{1}{4}$ "	8.2957	6 $\frac{3}{4}$ "	35.784	10 $\frac{1}{4}$ "	82.516
3 $\frac{1}{2}$ "	9.6211	7 "	38.484	10 $\frac{1}{2}$ "	86.590
3 $\frac{3}{4}$ "	11.044	7 $\frac{1}{4}$ "	41.282	10 $\frac{3}{4}$ "	90.762
4 "	12.566	7 $\frac{1}{2}$ "	44.187	11 "	95.033
4 $\frac{1}{4}$ "	14.186	7 $\frac{3}{4}$ "	47.173	11 $\frac{1}{4}$ "	99.402
4 $\frac{1}{2}$ "	15.904	8 "	50.265	11 $\frac{1}{2}$ "	103.869
4 $\frac{3}{4}$ "	17.720	8 $\frac{1}{4}$ "	53.456	11 $\frac{3}{4}$ "	108.434
5 "	19.635	8 $\frac{1}{2}$ "	56.745	12 "	113.976
5 $\frac{1}{4}$ "	21.647	8 $\frac{3}{4}$ "	60.132	12 $\frac{1}{4}$ "	117.859

A cubic foot of water weighs 62 $\frac{1}{2}$ pounds, and contains 7 $\frac{1}{2}$ gallons. Doubling the diameter of a pipe increases its capacity four times. A steam boiler of any size requires one cubic foot of water per hour for each nominal horse-power. Power Pumps should be run so that the Piston travels about 100 feet per minute.

REVOLVING-TOP CISTERN PUMP.

With Bolted Base and Polished Cylinder.

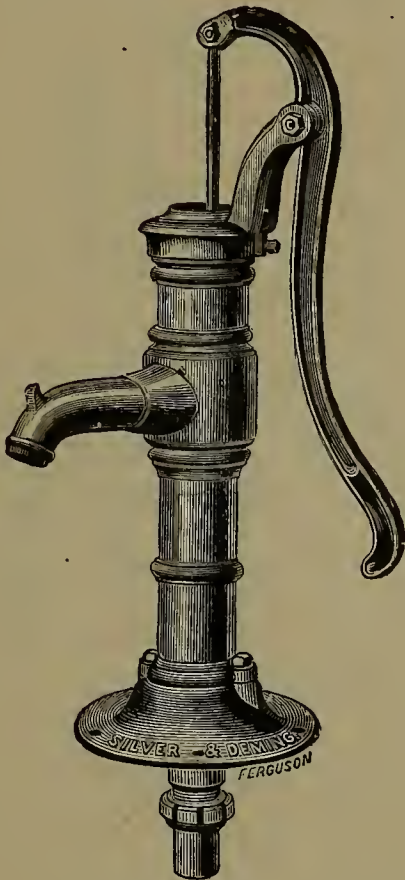


Fig. 118.

Fig. 118 represents our Standard Cistern Pump. It is made with a broad low Base, with Coupling below, as shown in cut, and like all our Pumps of this class, is made with Sand Valve Seat.

SIZES AND PRICES.

No.	SIZE CYLINDER.	FITTED FOR	IRON.	BRASS CYLINDER.	*ALL BRASS.
0	2 inch.	1 inch pipe.	\$3 50	\$ 5 50	\$ 7 75
1	2 $\frac{1}{4}$ "	1 " "	4 00	6 00	8 75
2	2 $\frac{3}{4}$ "	1 $\frac{1}{4}$ " "	4 50	7 00	10 50
3	3 "	1 $\frac{1}{4}$ " "	5 00	8 00	14 00
4	3 $\frac{1}{4}$ "	1 $\frac{1}{4}$ " "	5 50	10 00	17 00
5	3 $\frac{1}{2}$ "	1 $\frac{1}{2}$ " "	6 50	13 00	21 00
6	3 $\frac{1}{2}$ "	1 $\frac{1}{2}$ or 2 "	8 00	18 00	27 00

* All Brass, excepting Lever, Bearer and Base. Fitted with Brass Valve Seat.

REVOLVING-TOP CISTERN PUMP—Western Style.

With Bolted Base, Bored and Polished Cylinder.

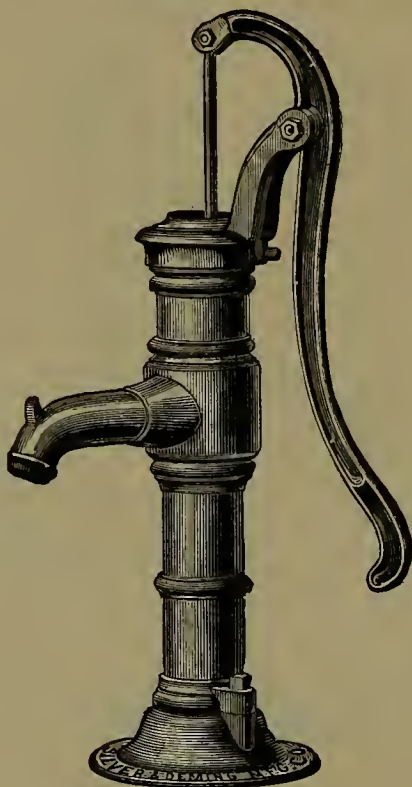


Fig. 123.

Fig. 123 represents another of our Cistern Pumps, same class as the one preceding, and differing only in height. Being considerably taller than other styles of Cistern Pumps, it meets with much favor, and is accepted by the trade generally as the *Standard Western Cistern Pump*.

SIZES AND PRICES

No.	SIZE CYLINDER.	FITTED FOR	IRON.	BRASS CYLINDER.	*ALL BRASS.
0	2 inch.	1 inch pipe.	\$3 50	\$5 50	\$ 7 75
1	2 $\frac{1}{4}$ "	1 " "	4 00	6 00	8 75
2	2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ " "	5 50	7 00	10 50
3	2 $\frac{3}{4}$ "	1 $\frac{1}{2}$ " "	5 00	8 00	14 00
4	3 "	1 $\frac{3}{4}$ " "	5 50	10 00	17 00
5	3 $\frac{1}{4}$ "	1 $\frac{1}{2}$ " "	6 50	13 00	21 00
6	3 $\frac{1}{2}$ "	1 $\frac{1}{2}$ or 2 "	8 00	18 00	27 00

* All Brass, excepting Lever, Bearer and Base. Fitted with Brass Valve Seat.

REVOLVING-TOP CISTERN PUMP—With Brackets.
With Bored and Polished Cylinder.

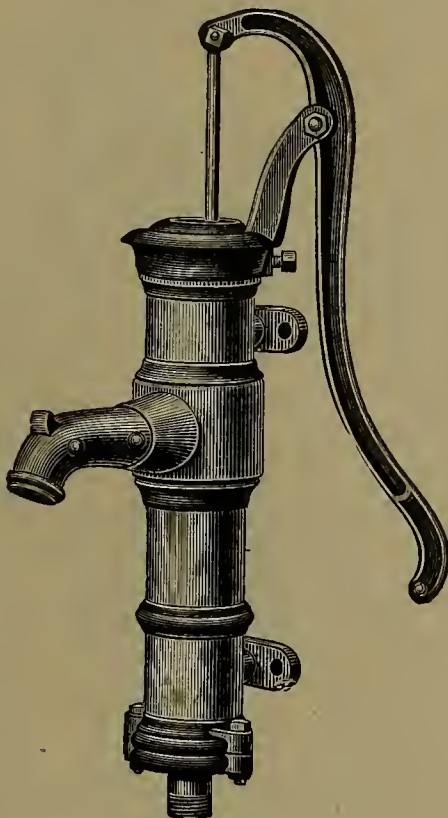


Fig. 119.

Fig. 119 exhibits our Revolving-Top Cistern Pump, with Brackets, which is essentially the same as the preceding Pump, differing only in style, which corresponds with Fig. 123. Fitted for either lead or iron Pipe or both, as ordered.

SIZES AND PRICES.

No.	SIZE CYLINDER.	FITTED FOR.	IRON.	BRASS CYLINDER.	*ALL BRASS.
0	2 inch.	1 inch pipe.	\$ 3 50	\$ 5 50	\$ 7 75
1	2 $\frac{1}{4}$ "	1 " "	4 00	6 00	8 75
2	2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ " "	4 50	7 00	10 50
3	2 $\frac{3}{4}$ "	1 $\frac{1}{4}$ " "	5 00	8 00	14 00
4	3 "	1 $\frac{1}{4}$ " "	5 50	10 00	17 00
5	3 $\frac{1}{4}$ "	1 $\frac{1}{2}$ " "	6 50	13 00	21 00
6	3 $\frac{1}{2}$ "	1 $\frac{1}{2}$ or 2 "	8 00	18 00	27 00

*All Brass excepting Lever, Bearer and Base. Fitted with Brass Valve Seat.

NEW STYLE CLOSE-TOP PITCHER-SPOUT PUMP.

With Adjustable Lever and Cut-off Base.

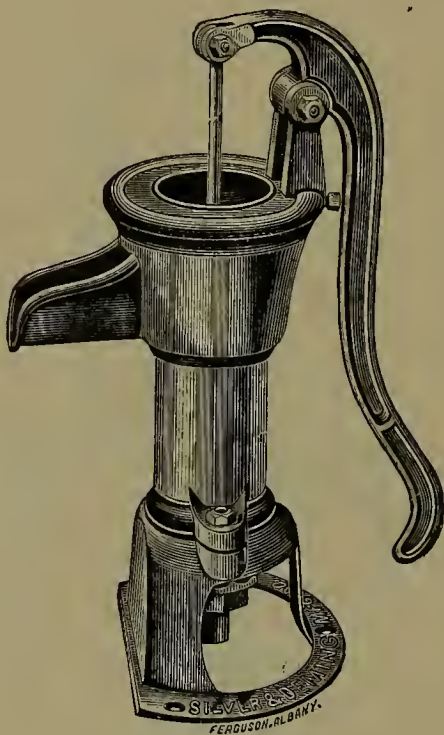


Fig. 125.

Fig. 125 exhibits our Improved Close-Top, Pitcher-Spout Pump, a style favorably known everywhere. In its construction we have taken especial care that it should want nothing essential to an absolutely perfect Pump. It is arranged with a Revolving Top, located outside of the Water-way, which permits of the Lever being moved to any desired position. The Cylinders are bored perfectly true, and finely polished. The attachment for connecting the Suction Pipe is both simple and complete ; a substantial Iron Hub projects from the bottom of the Base, on which is screwed a Coupling Nut, threaded for gas pipe, through which a soldering tube is introduced, for connecting to lead pipe when desired. All parts are finished to exact gauges. Repairs will always fit.

SIZES AND PRICES.

No. 1, 2½ inch Cylinder, fitted for 1 inch Pipe.....	\$4 25
“ 2, 3 “ “ “ 1¼ “	4 75
“ 3, 3½ “ “ “ 1¼ “	5 25
“ 4, 4 “ “ “ 1¼ “	5 75
“ 5, 4½ “ “ “ 1½ “	6 25

Fitted for either Iron or Lead Pipe, or both, as ordered.

MOLASSES, OR HOT LIQUID PUMP.

Metallic Fitted.



Fig. 140.

This cut shows our Molasses, or Hot Liquid Pump. It is adapted for pumping molasses, hot water, or any hot liquids or syrups. It has a revolving top, and the lever can thus be placed in any desired position. In the iron Pumps the valves, connecting-tube, piston and piston-rod are made of brass. The brass Pumps are made entirely of that metal, except the base, top and lever, so that no iron will come in contact with the liquid. When used for hot liquid, the Pump should be placed as near to it as possible, as the vapor arising tends to destroy the vacuum produced by the Pump.

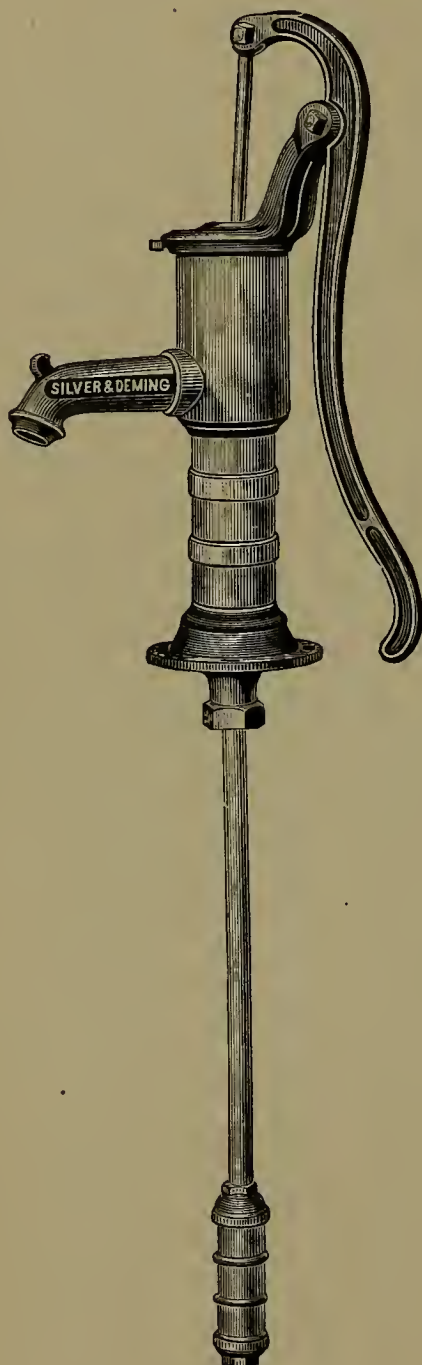
We make five sizes, fitted for lead or iron pipe connections.

SIZES AND PRICES.

SIZES AND PRICES.							IRON.	BRASS.
No. 4,	2½	inch	caliber,	for	1¼	inch Pipe.....	\$12 00	\$20 00
“ 5,	3	“	“	“	1½	“ “ 15 00	15 00	25 00
“ 6,	3½	“	“	“	1½	“ “ 17 00	17 00	30 00
“ 7,	4	“	“	“	2	“ “ 21 00	21 00	36 00
“ 8,	4½	“	“	“	2½	“ “ 25 00	25 00	42 00

REVOLVING TOP CISTERN PUMP.

With Wrought Iron Set-Length.



The Pump shown here is our Fig. 121, with Wrought Iron Set-Length, for *out-door* use in cisterns and shallow wells, where an ordinary Cistern Pump would be liable to be affected by frost. They are rendered anti-freezing by a small drip-hole in the pipe above the Cylinder. When so ordered, we furnish the Standard and Cylinder only, so that the Pump may be fitted by the purchaser for any depth well.

These Pumps are fitted with either screwed or bolted cylinders, as ordered, at same list prices.

SIZES AND PRICES.

No. 1,	2 $\frac{1}{4}$	inch	bore,	fitted	for	1	inch	Pipe.....	\$6 00
" 2,	2 $\frac{1}{2}$	"	"	"	"	1 $\frac{1}{4}$	"	"	6 50
" 3,	2 $\frac{3}{4}$	"	"	"	"	1 $\frac{1}{4}$	"	"	7 00
" 4,	3	"	"	"	"	1 $\frac{1}{4}$	"	"	7 50
" 5,	3 $\frac{1}{4}$	"	"	"	"	1 $\frac{1}{2}$	"	"	8 00
" 6,	3 $\frac{1}{2}$	"	"	"	"	2	"	"	9 00

We can furnish these Pumps fitted for any size pipe, American or foreign, as ordered. Standard and Cylinder, without Set-Length, 50 cents less list for each size.

Fig. 117.

REVOLVING-TOP PITCHER-SPOUT PUMP.

With Wrought Iron Set-Length.

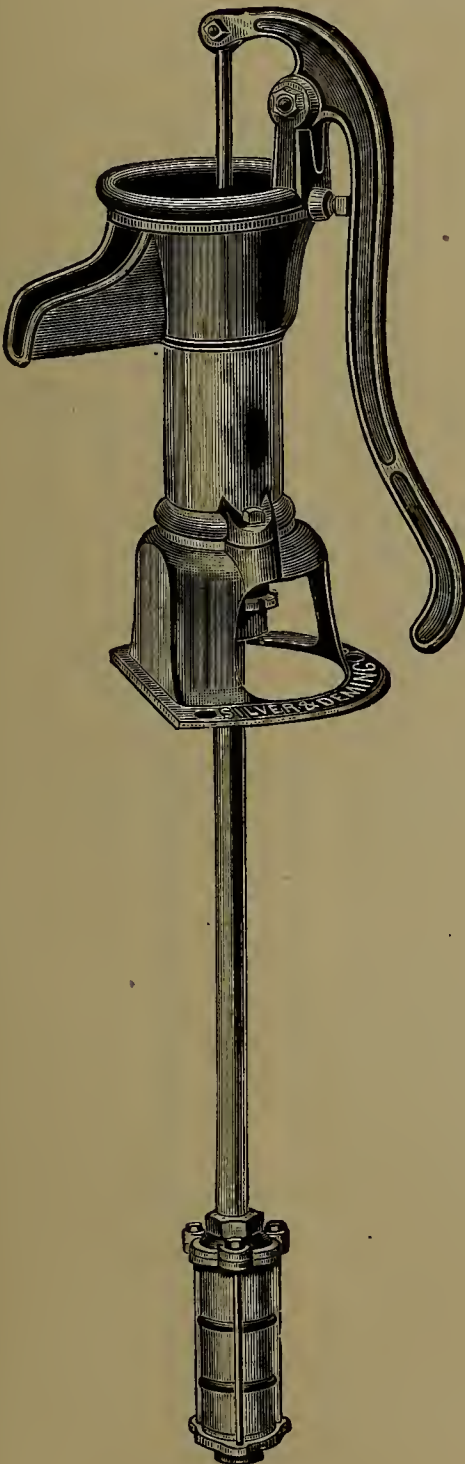


Fig. 130 represents our Pitcher-Spout Pump with Wrought Iron Set-Length. They are adapted to use in shallow wells and cisterns, and are rendered anti-freezing by a small drip hole in the pipe above the Cylinder. These Pumps are fitted with either Bolted or Screwed Cylinders at same list prices. The lower Valve-Seat is brass. Furnished for either lead or iron pipe, as ordered. When so ordered, we furnish the Standard and Cylinder, without Set-Length, so that the Pump may be fitted by the purchaser for any depth well.

SIZES AND PRICES.

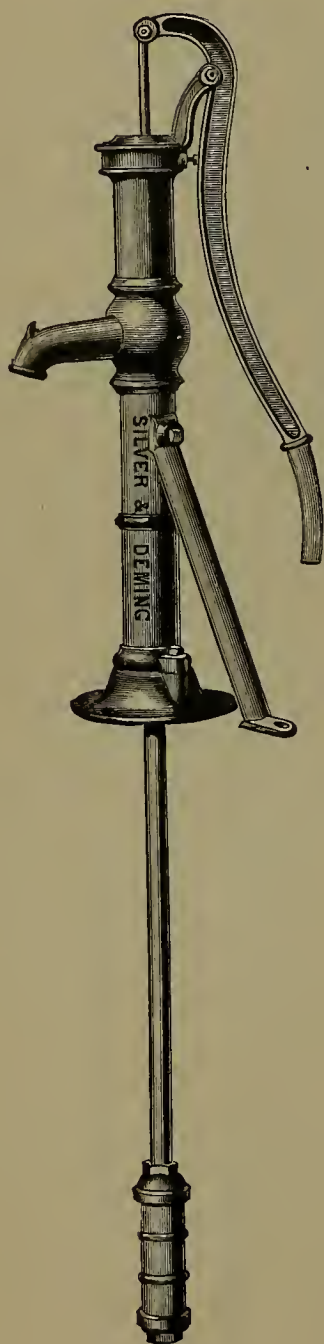
No. 1,	2 $\frac{1}{2}$	inch bore,	fitted for	1 inch	Pipe...	\$6 75
" 2, 3	"	"	"	1 $\frac{1}{4}$	"	... 7 75
" 3, 3 $\frac{1}{2}$	"	"	"	1 $\frac{1}{4}$	"	... 8 75
" 4, 4	"	"	"	1 $\frac{1}{2}$	"	... 9 50

We can furnish these Pumps, fitted for any size Pipe, American or foreign, as ordered. Standard and Cylinder, without Set-Length, 50 cents less list for each size.

Fig. 130.

IMPROVED ANTI-FREEZING WELL PUMP.

With Wrought Iron Set-Length.



This cut represents our Fig. 200. It is adapted to shallow wells, cisterns, or driven wells, and by lowering the Cylinder to within say 20 feet of the water, will be found to work to good advantage in wells from 40 to 50 feet deep.

The Lever is adjustable. The Standard and Base are securely connected with iron bolts. The Cylinder, as in all our Pumps, is bored perfectly true and highly polished, and connected to the Standard by three feet of wrought iron pipe, which is provided with a *vent hole*, located just above the Cylinder, permitting all the water above the freezing point to escape from the Pump. We make the lower Valve either of leather, or of leather faced with rubber, and with either *Iron* or *Brass* Valve Seat, but always of *Iron*, unless otherwise ordered.

Our Valve Seats are all of an improved design, and cannot be clogged with sand. Length of stroke, six inches. All threads cut to exact gauges. Repairs will always fit.

SIZES AND PRICES;

No. 1,	2 $\frac{1}{4}$ inch Bore,	for 1 inch Suction Pipe.....	\$7 00
" 2,	2 $\frac{1}{2}$ " " " 1 $\frac{1}{4}$ " " "	.....	7 50
" 3,	2 $\frac{3}{4}$ " " " 1 $\frac{1}{4}$ " " "	.....	8 00
" 4,	3 " " " 1 $\frac{1}{4}$ " " "	.....	8 50
" 5,	3 $\frac{1}{4}$ " " " 1 $\frac{1}{4}$ " " "	.....	9 00

Fig. 200.

We furnish the above with Bolted Cylinders at same price, when so ordered.

IMPROVED ANTI-FREEZING WELL PUMP.

With Cast Iron Set-Length.

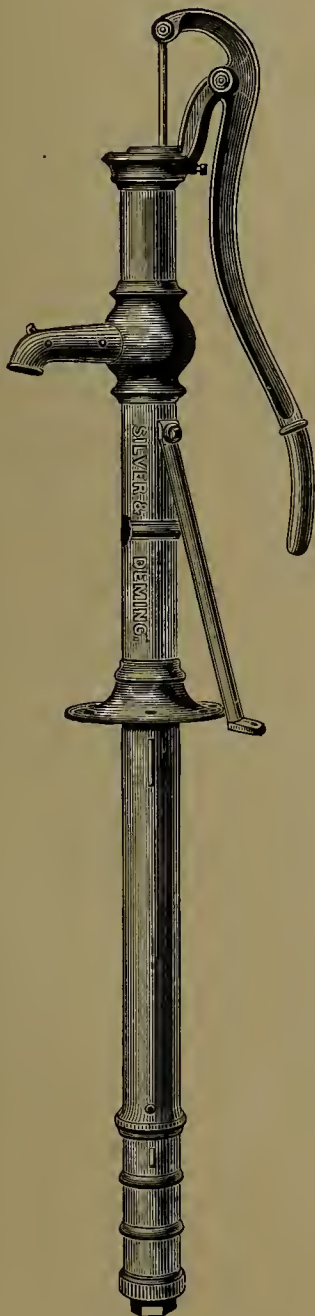


Fig. 201.

Fig. 201 exhibits our Improved Anti-Freezing Well Pump with Cast Iron Set-Length. The Pipe, or set-length, connecting the Cylinder with the Pump Standard, is one-fourth inch larger inside diameter than the Cylinder, and is so arranged that the Plunger, when new packing is required, can be easily drawn up through the Set-length and Standard by simply loosening the set-screw in the top under the Lever. When not in use, the water in Standard and Connecting Pipe will escape through the vent shown in cut, immediately above the Cylinder, thereby making the Pump positively anti-freezing.

It is made with Sand Valves, and is especially adapted to out-door cisterns, and open or driven wells not over thirty feet deep.

SIZES AND PRICES.

No. 2,	2 $\frac{1}{4}$ -inch bore,	for 1 inch suction pipe.....	\$7 00
" 3,	2 $\frac{1}{2}$ " " " 1 $\frac{1}{4}$ " " "	.....	7 50
" 4,	2 $\frac{3}{4}$ " " " 1 $\frac{1}{4}$ " " "	.....	8 00
" 5,	3 " " " 1 $\frac{1}{4}$ " " "	.....	8 50

Length of stroke, 6 inches. All threads cut to exact gauge. Repairs will always fit.

TIGHT-TOP ANTI-FREEZING WELL PUMP.

With Wrought Iron Set-Length.

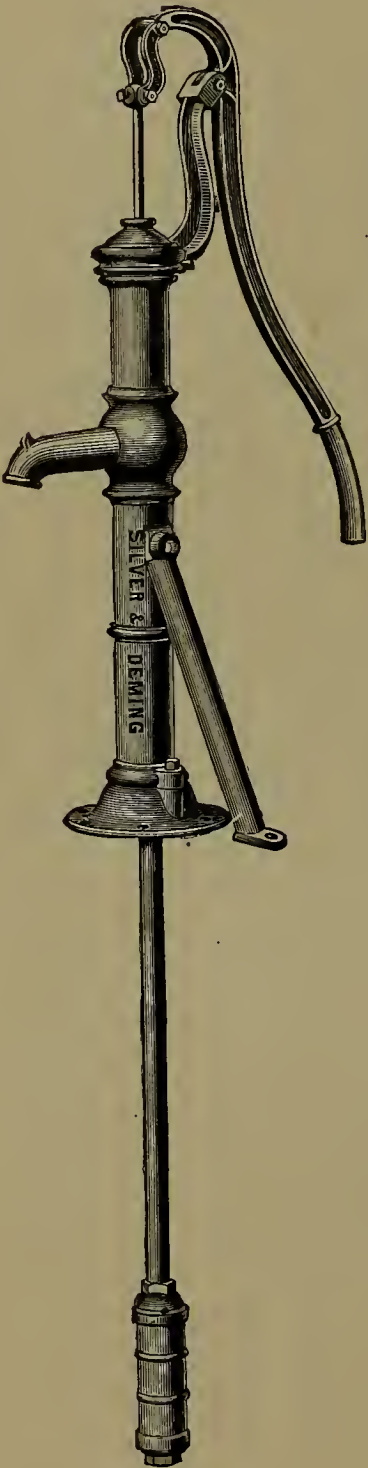


Fig. 202.

Fig. 202 represents our Tight-Top Anti-Freezing Well Pump. It is similar to our Fig. 200, the difference consisting of a closed top (through which a polished Rod passes), and the necessary links connecting the Rod to the Handle, to prevent the rocking motion of the Rod as in Open-Top Pumps. Each size of this Pump is several inches taller than the corresponding size of the Open-Top. It is preferred for some locations, as no stones or dirt can be thrown into it, and the direct vertical motion of the Piston renders it less liable to require frequent repacking. It thus possesses many points of excellence, which, with its low price, make it a very popular Pump. We furnish it with Bolted Cylinder when so ordered, at same list price.

SIZES AND PRICES.

No. 2, 2½ in. bore	for 1¼ in. Suction Pipe	.....	\$8 25
" 3, 2¾ "	" " 1¼ "	" "	8 75
" 4, 3 "	" " 1¼ "	" "	9 25
" 5, 3¼ "	" " 1¼ "	" "	9 75

FIG. 203.

Same Standard, with cast iron Connecting Pipe, Anti-Freezing.

SIZES AND PRICES.

No. 2, 2½ in. for 1¼ in. Suction Pipe	.....	\$8 25
" 3, 2½ "	" 1¼ " "	8 75
" 4, 3¼ "	" 1¼ " "	9 25
" 5, 3 "	" 1¼ " "	9 75

All our threads are cut to exact gauges, and repairs will always fit.

SPECIAL ANTI-FREEZING DRIVE-WELL PUMP.

With Wrought Iron Set-Length Connected under Spout.



Fig. 208.

Fig. 208 represents a Pump combining many advantages which commend it to the public generally, and especially to those interested in the Driven-Well business. It already occupies a position in the estimation of the trade second to no other Pump of like character.

The Standard and Base are cast solid; and strength, compactness and symmetrical proportions combine in its mechanical design to make it perfect.

The Set-Length Pipe, connecting the Standard with the Cylinder, is attached immediately under the Spout, so that but a very few strokes of the lever are required to deliver the water, and leaving an air space between Pipe and inside of Pump Standard, which in itself is an absolute protection against frost, while an additional protection is afforded by the vent hole in Pipe just above the Cylinder. It is made with Screwed or Bolted Cylinder, as ordered. It has a Sand Valve Seat.

SIZES AND PRICES.

No. 2, 2 $\frac{1}{2}$ in. bore, for 1 $\frac{1}{4}$ in. Suction Pipe.....	\$8 25
“ 3, 2 $\frac{3}{4}$ “ “ “ 1 $\frac{1}{4}$ “ “ “	8 50
“ 4, 3 “ “ “ 1 $\frac{1}{4}$ “ “ “	9 00
“ 5, 3 $\frac{1}{4}$ “ “ “ 1 $\frac{1}{4}$ “ “ “	9 50
“ 6, 3 $\frac{1}{2}$ “ “ “ 1 $\frac{1}{2}$ “ “ “	10 00

FIG. 209.

Same Pump with Close Top, add 75 cents to above list for each size.

Standard and Cylinder only, 50 cents less list.

Duplicate parts of this Pump may always be obtained from us.

SPECIAL ANTI-FREEZING TUBE-WELL FORCE PUMP.

With Wrought Iron Set-Length.

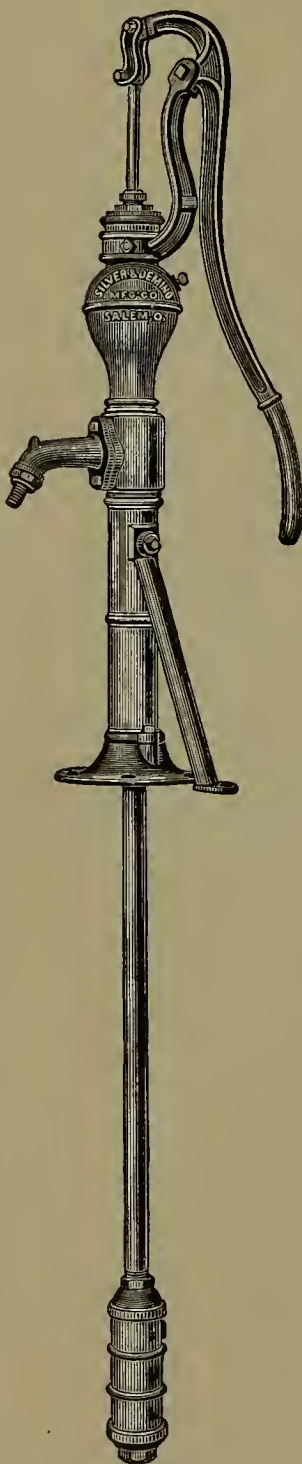


Fig. 220.

Fig. 220 represents our Anti-Freezing Tube-Well Force Pump. We have taken more than ordinary pains in the construction of this Pump, and can confidently recommend it as a most excellent Force Pump both for open and driven wells.

The Standard is the same for each size Cylinder. The Lever is long, heavy and perfectly balanced, and is adjustable to any point most convenient for use. The Piston-Rod is polished, and works through a *brass Stuffing Box*. The Cylinder is located three feet below the Base, and the Connecting Pipe is provided with the usual drip hole for allowing the water in the Standard and Pipe to escape in cold weather, thus rendering the Pump anti-freezing.

This Pump is strongly made, is handsome in design, and is provided with a suitable Brace. A Spout Hose-Coupling accompanies each Pump, and when requested, we can furnish Rubber Hose in any quantity at manufacturers' prices.

The Cylinder is accurately bored and very highly polished. The Valves are proof against sand, and the Valve-Seats are made of either Iron or Brass; but always of Iron (which we consider preferable), unless otherwise ordered. These Pumps are cast from metal patterns, and all threads cut to exact gauges, which insure perfect duplicates, should repairs become necessary.

SIZES AND PRICES.

No. 3,	2 $\frac{3}{4}$ inch bore,	for 1 $\frac{1}{4}$ inch Suction Pipe.....	\$13 00
" 4,	3 " " " 1 $\frac{1}{4}$ " " "	.....	13 00
" 5,	3 $\frac{1}{4}$ " " " 1 $\frac{1}{4}$ " " "	.....	13 50
" 6,	3 $\frac{1}{2}$ " " " 1 $\frac{1}{2}$ " " "	.....	14 50

Standard and Cylinder only, same list price. Three feet Hose and Discharge Pipe, \$3.00 extra list.

IMPROVED ANTI-FREEZING WELL FORCE PUMP.

With Wrought Iron Set-Length.



Fig. 221.

This illustration represents a Force Pump long and favorably known to the trade. It is largely used in yards, gardens, stables, etc., and makes a very efficient fire protection, when located adjacent to private residences. On account of its strength, durability, efficiency and cheapness, it has long been a favorite Force Pump; and with our superior manner of constructing it, we bespeak for it increased popularity. It is supplied with a suitable Brace, and a Spout-Coupling for attaching hose. By lowering the Cylinder to within about 15 or 20 feet of the water, it may be used in wells from 60 to 80 feet deep, although we would recommend the use of our *Improved Deep Well Cylinders* in connection with this Standard, for wells over 50 feet in depth.

When used as an ordinary Lift-Pump, the Nut on top of the Air-Chamber should be loosened.

SIZES AND PRICES.

No. 3,	2 $\frac{3}{4}$ inch bore,	for	1 $\frac{1}{4}$ inch Pipe	.....	\$15 00
" 4,	3 " " "	"	1 $\frac{1}{4}$ " "	.....	15 00
" 5,	3 $\frac{1}{4}$ " " "	"	1 $\frac{1}{4}$ " "	.....	15 50
" 6,	3 $\frac{1}{2}$ " " "	"	1 $\frac{1}{2}$ " "	.....	16 00

Standard and Cylinder only, same list price. Furnished with Bolted Cylinder at same price.

FIG. 222.

Same Standard, with cast iron Connecting Pipe, anti-freezing.

SIZES AND PRICES.

No. 3,	2 $\frac{3}{4}$ inch bore,	for	1 $\frac{1}{4}$ inch Pipe	.....	\$15 00
" 4,	3 " " "	"	1 $\frac{1}{4}$ " "	.....	15 00
" 5,	3 $\frac{1}{4}$ " " "	"	1 $\frac{1}{4}$ " "	.....	15 50
" 6,	3 $\frac{1}{2}$ " " "	"	1 $\frac{1}{2}$ " "	.....	16 00

Three feet Hose and Discharge Pipe, \$3.00 extra list. All threads cut to exact gauges. Repairs will always

fit.

SPECIAL WELL PUMP STANDARD.

Screwed for Iron Pipe.

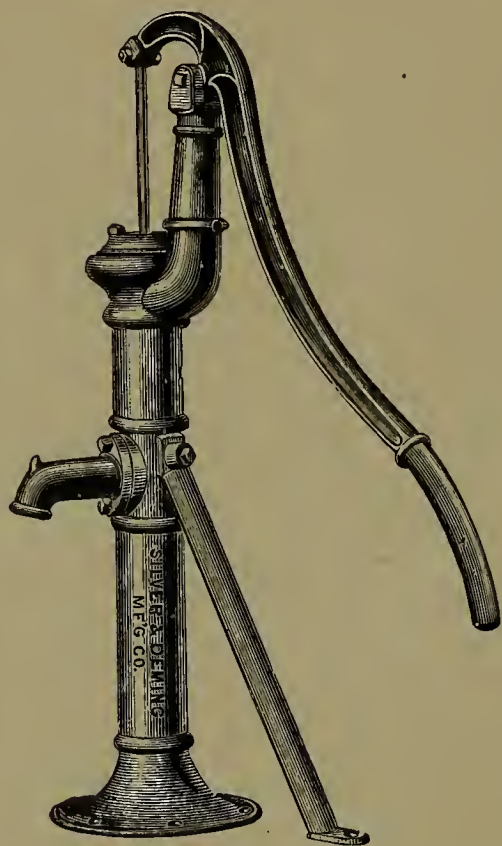


Fig. 227.

Fig. 227 shows our Special Well Pump Standard, which is handsome in design and substantially constructed, and when used with our Special Cylinders (Figs. 302 and 303), or with our Improved Deep Well Cylinders (Figs. 304 and 305), will give perfect satisfaction. This style of Pump has been known as a “shallow-well Pump,” but it will be found equally suited to wells of more than ordinary depth.

It is supported by a strong Brace, and has an extra long and heavy Lever.

The Suction Pipe is screwed into the Standard just below the Spout, which makes the Pump less liable to be affected by frost.

Fitted for either 1, 1¼, 1½ or 2 inch wrought iron Pipe, but always for 1¼ inch Pipe, unless otherwise ordered.

Price, Standard, complete, as shown in cut..... \$6 00

Length of stroke, 8 inches.

CLOSE-TOP DEEP-WELL PUMP STANDARD.

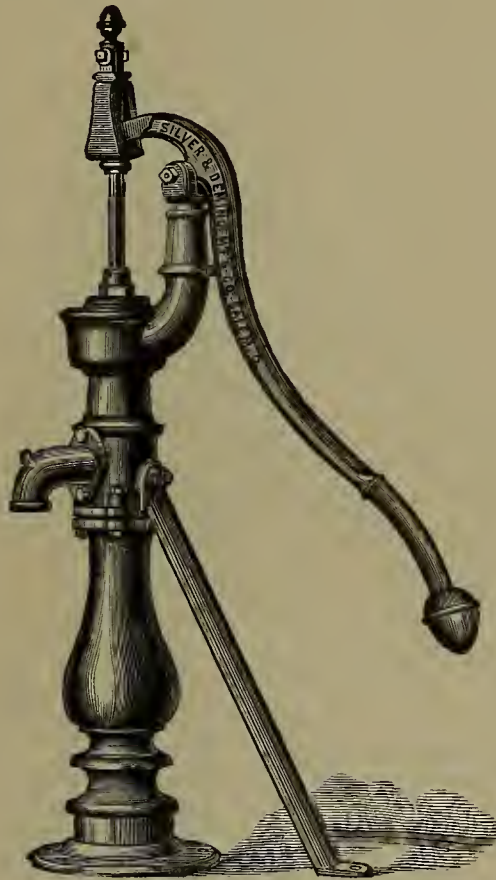


Fig. 230.

This cut exhibits a style of Pump Standard which has been well and favorably known by dealers for many years; and in deep-well localities it is considered the Standard Pump. Its beauty, compactness and general points of excellence will commend it to those desiring Pumps of this class. It can be used in wells 150 feet deep. For open wells, it should be used with our Improved Deep-Well Cylinders (Fig. 304), and for drilled wells with our Improved Drilled-Well Cylinders (Fig. 305). Length of stroke, 7 inches.

SIZES AND PRICES.

Standard, complete, fitted for	$1\frac{1}{4}$, $1\frac{1}{2}$, 2 or $2\frac{1}{2}$ inch Pipe, as ordered.....	\$10 00
Extra Flanges,	“ “ $1\frac{1}{4}$ inch Pipe, each.....	50
“ “ “	“ “ $1\frac{1}{2}$, 2 or $2\frac{1}{2}$ inch Pipe, each.....	60

All parts are interchangeable. Repairs will always fit.

DEEP-WELL FORCE PUMP STANDARD.

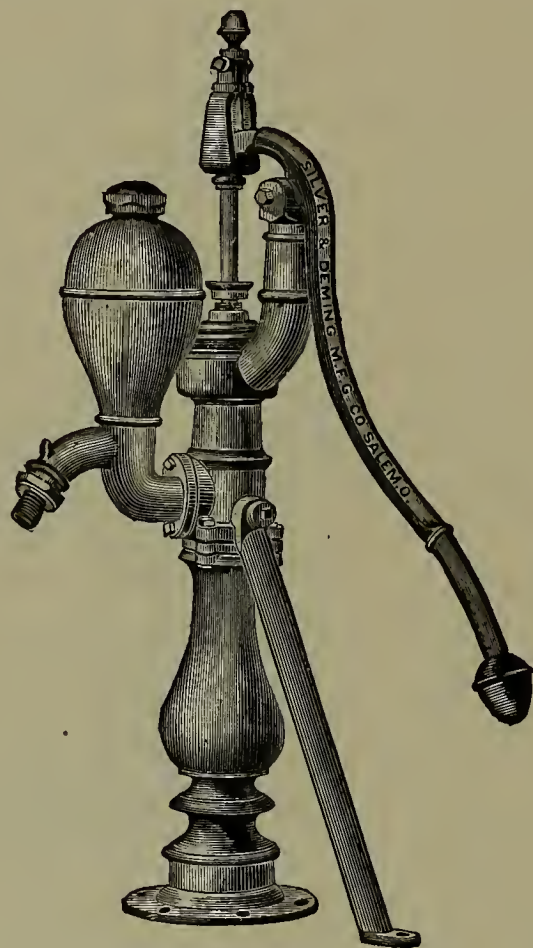


Fig. 231.

This Pump is constructed in the same manner as Fig. 230, with the addition of the Air Chamber and Stuffing-Box necessary to make it a Force Pump. It will be found efficient in any place where a Force Pump is required. It is a style so generally and favorably known that we need only add that we guarantee it to be the most perfect Pump of its class manufactured. It is used in connection with our Improved Deep-Well Cylinders (Figs. 304 and 305). Length of stroke, 7 inches.

SIZES AND PRICES.

Standard, complete, fitted for	$1\frac{1}{4}$, $1\frac{1}{2}$, 2 or $2\frac{1}{2}$ inch Pipe, as ordered.....	\$13 00
Extra Flanges,	“ “ $1\frac{1}{4}$ inch Pipe, each.....	50
“ “	“ “ $1\frac{1}{2}$, 2 or $2\frac{1}{2}$ inch Pipe, each.....	60

EXTRA HEAVY DEEP-WELL PUMP STANDARD.

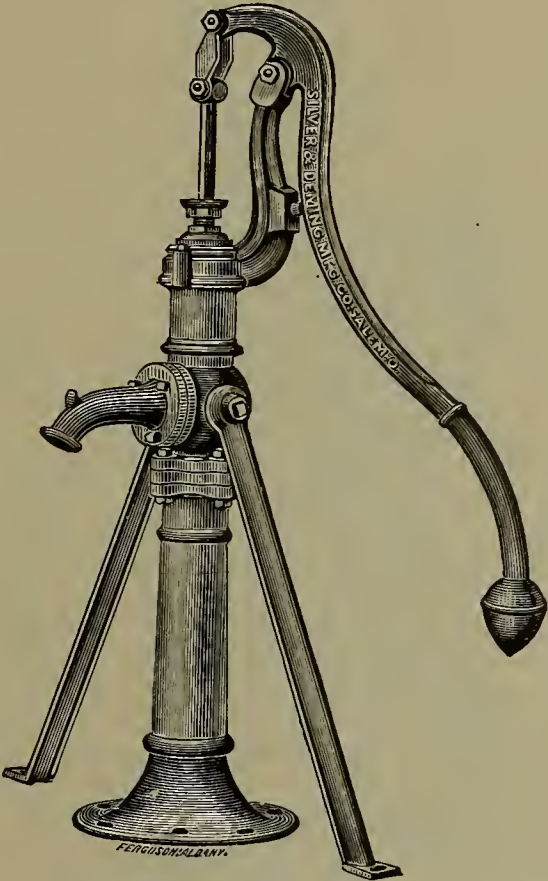


Fig. 232.

This cut represents our most substantial Deep-Well Pump. It is essentially of the same class as Fig. 230; differing only in that it is made much heavier and stronger, and is arranged with a revolving Fulcrum, so that it can be used either *Right* or *Left Handed*. For use in public places, where constant use and rough handling need be expected, we especially recommend this Pump, with the positive assurance that it will give satisfaction.

SIZES AND PRICES.

Fig. 232, Standard complete.....	\$16 00
“ 232, with 6 inch stroke, Wind-Mill Top.....	extra list, 2 00
“ 232, with 10 inch stroke, Wind-Mill Top.....	“ “ 3 00

Length of stroke, 7 inches.

For *Cylinders* used in connection with this Pump, see Figs. 304 and 305.

EXTRA FLANGES.

For 1 1/4 inch Pipe.....	each, \$0 50
“ 1 1/2, 2, or 2 1/2 inch Pipe.....	“ 60

EXTRA HEAVY DEEP-WELL FORCE PUMP STANDARD.

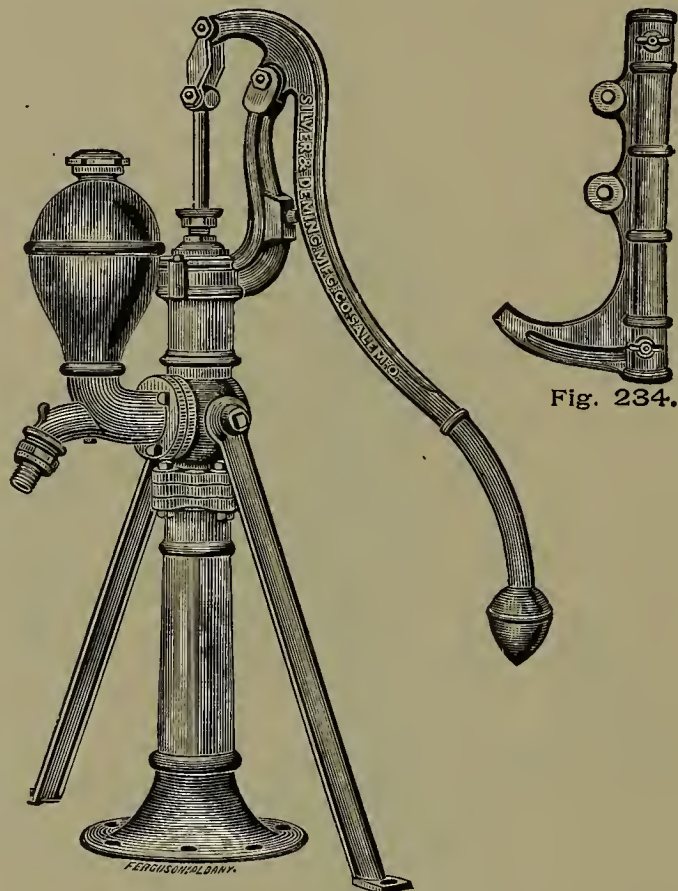


Fig. 233.

Fig. 234.

Fig. 233 represents a Pump having all the commendable qualities of our Fig. 232; in addition to which, it is a *Force Pump* of especial merit, and will be found of great service for *fire protection*, in private or public *gardens*, about *stables*, or any character of buildings where a Force Pump can be utilized. A double lever can be applied to this Pump. (See Fig. 234.)

SIZES AND PRICES.

Fig. 233, Standard complete.....	\$20 00
“ 233, with 6 inch stroke, Wind-Mill Top.....	extra list, 2 00
“ 233, with 10 inch stroke, Wind-Mill Top.....	“ “ 3 00
“ 233, arranged with Brake for wood Levers, (Fig. 234).....	“ “ 1 00
Length of stroke, 7 inches. For <i>Cylinders</i> used in connection with this Pump, see Figs. 304 and 305.	

EXTRA FLANGES.

For 1½ inch Pipe.....	each \$0 50
“ 1½, 2, or 2½ inch Pipe.....	“ 60

WIND-MILL PUMP STANDARD.

With Brackets.

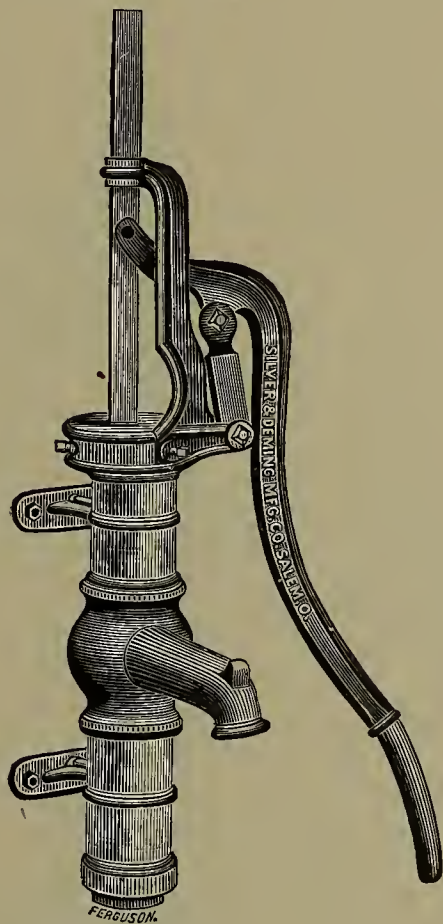


Fig. 399.

Fig. 399 represents a Wind-Mill Standard arranged with Brackets. This arrangement often fills a want that could not be covered by any other device. The top of the Standard is made in the same manner as those of our regular Wind-Mill Standards, as shown on several of the following pages. The bottom of the Standard is fitted with gas pipe thread, to which the Connecting Pipe between it and the Cylinder is easily attached.

Fig. 399, complete, as shown in cut. . 6 inch stroke..... \$5 50

We have now in course of construction, and will show in our next edition, a *Wind-Mill Force Pump Standard*, with *Brackets*, designated as Fig. 398. In general style it will correspond with our Fig. 404, shown on page 209, and will take its place where a Base Pump of that character will not suit the location. This Pump will be ready for the trade in a very short time.

Fig. 398, complete..... \$10 00

WIND-MILL LIFT PUMP STANDARD.

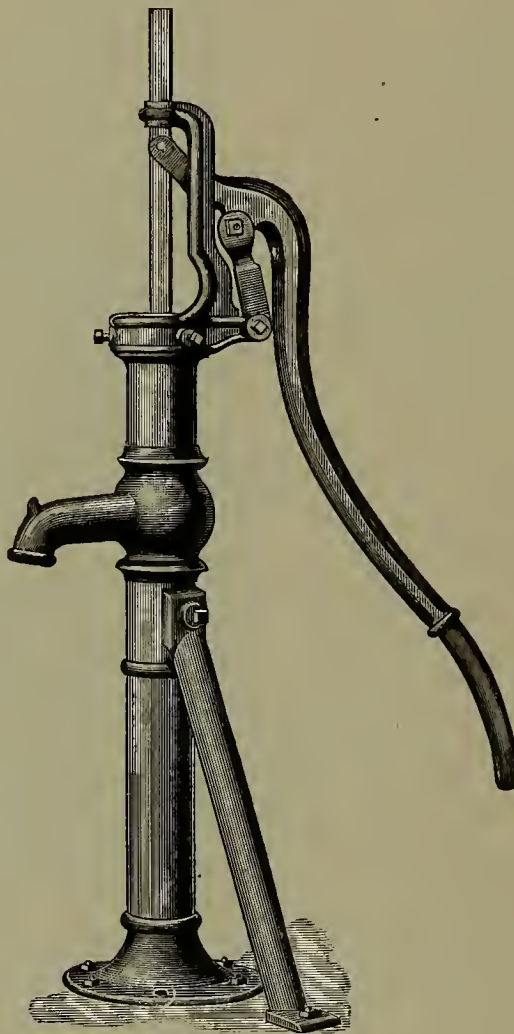


Fig. 400.

This cut accurately illustrates our Fig. 400. Of this Standard we make two sizes, Nos. 4 and 5. The No. 5 is made with either 6 or 10 inch stroke, as ordered. The Connecting Pipe is attached just below the Spout, which greatly lessens the liability to injury from frost.

SIZES AND PRICES.

					6 IN. STROKE.	10 IN. STROKE.
No. 4	Standard,	complete	with	Brace.....	\$7 00	—
" 5	"	"	"	"	8 00	\$9 50

Fitted for 1, $1\frac{1}{4}$, $1\frac{1}{2}$ or 2 inch Pipe, but always for $1\frac{1}{4}$ inch Pipe, unless otherwise ordered.

WIND-MILL LIFT PUMP STANDARD.

For Tubular and Deep Wells.

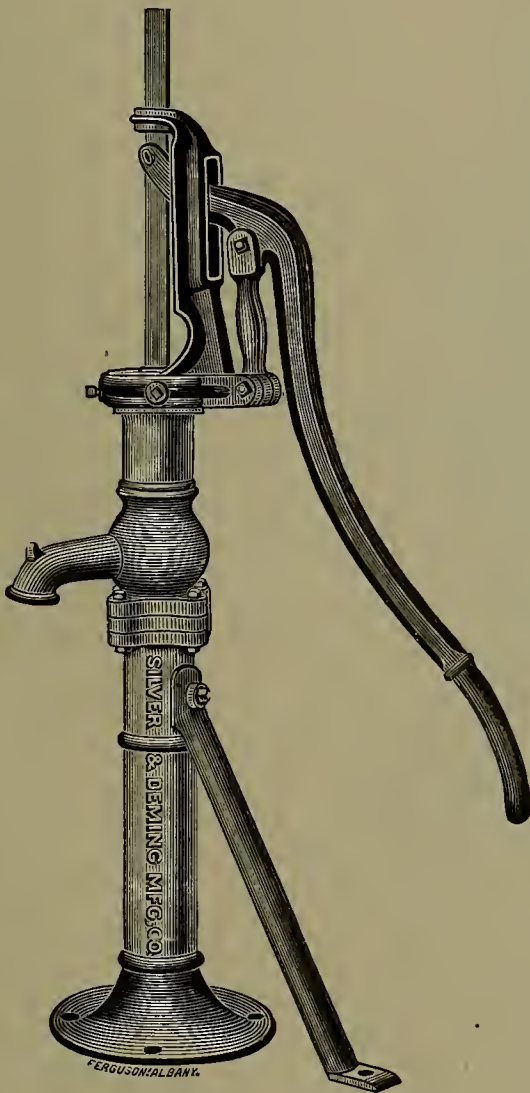


Fig. 401.

Fig. 401 accurately represents an improvement in Wind-Mill Pumps, which will at once be recognized and appreciated by any one interested in the Tubular or Artesian Well business. The Pump is in two sections, between which is introduced a Flange fitted for either $1\frac{1}{4}$, $1\frac{1}{2}$, 2 or $2\frac{1}{2}$ inch Pipe, as required, held firmly in position by the bolts connecting the two sections of the Standard.

This Pump is equally well adapted to any character of Deep Wells. It being made in two parts makes it possible to place it in position at the well with about one-half the amount of labor required by the old style of heavy Deep-Well Pumps.

SIZES AND PRICES.

Fig. 401, Standard complete, 6 in. stroke	\$10 00
" 401, " " 10 " "	11 50
Extra Flanges for $1\frac{1}{4}$ inch Pipe.....	50
" " " $1\frac{1}{2}$ 2 or $2\frac{1}{2}$ inch.....	60

WIND-MILL LIFT PUMP STANDARD.

With Adjustable Stroke

In presenting the Pump represented by the annexed cut, we do so with the assurance that we are offering to the public an article, the need of which has long been felt by all manufacturers and dealers in Wind-Mill Pumps. By our device the Pump, in a moment's time, can be arranged for either 6, 8 or 10 inch stroke, by simply changing the position of the two pins in the fulcrum. In other respects this Pump is identical in construction with that of Fig. 400. Wind-Mill Attachments and Rod Couplings accompany each Pump.

SIZES AND PRICES.

Fig. 402, complete, as shown in cut..... \$10 00

Fitted for either 1, 1 $\frac{1}{4}$, 1 $\frac{1}{2}$ or 2 inch Pipe, as desired, but always for 2 inch Pipe and Forked Rod, unless otherwise ordered.

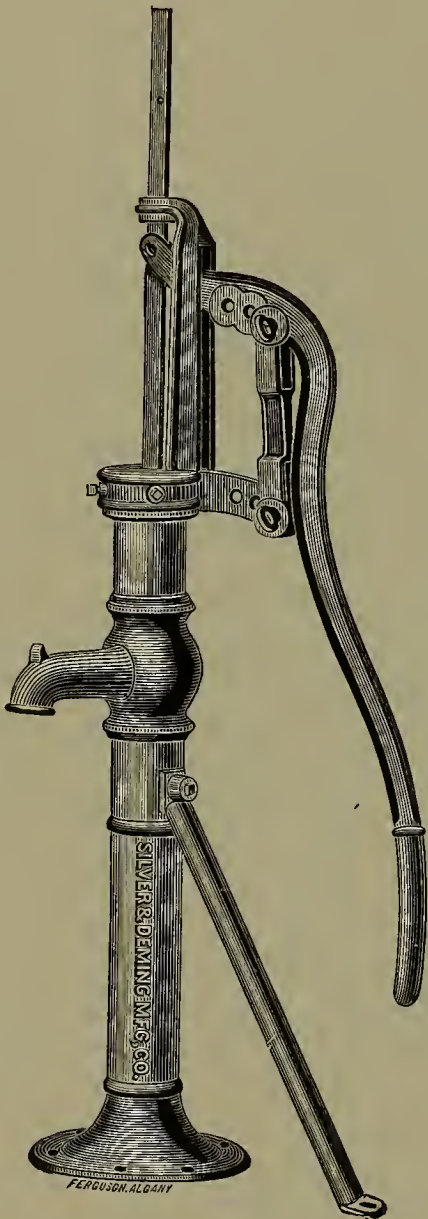


Fig. 402.

WIND-MILL FORCE PUMP STANDARD.

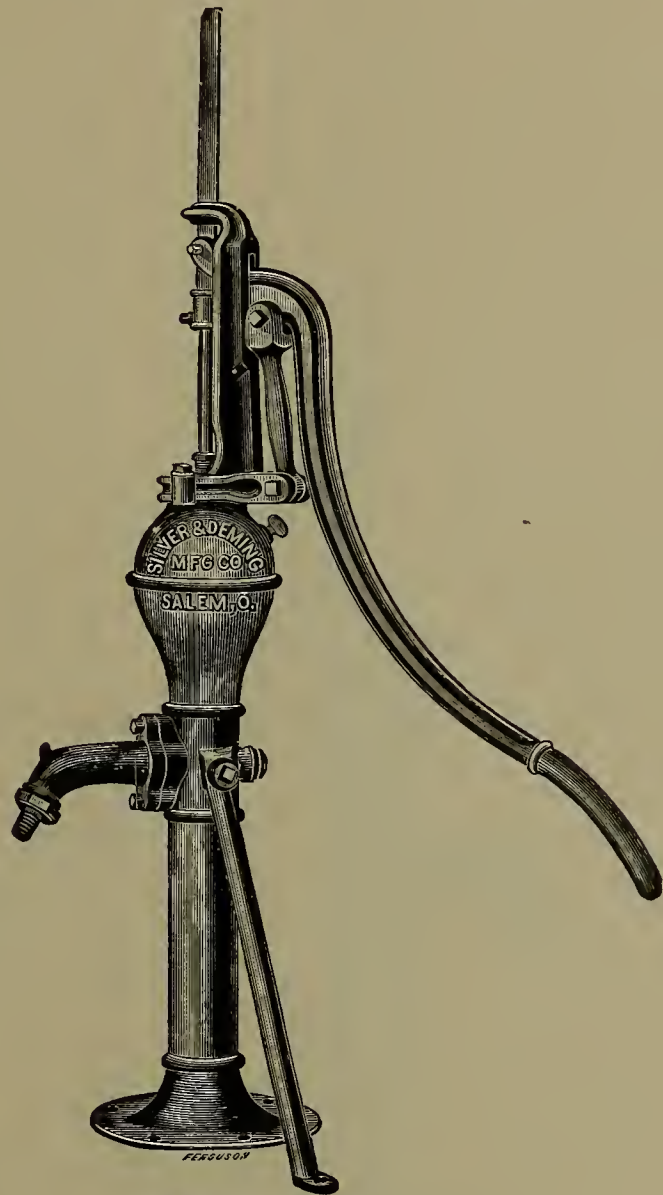


Fig. 404.

This cut shows our new Wind-Mill Force Pump Standard. This is a handsome, well proportioned Pump, and is made extra strong, being especially designed for heavy work. It has a discharge in the Stock opposite the Spout. This will be found a great convenience where the water is to be discharged into a tank. The Connecting Pipe is attached in the body of the Pump below the Spout.

Fitted for 1, 1 $\frac{1}{4}$, 1 $\frac{1}{2}$ or 2 inch Pipe, but always for 1 $\frac{1}{4}$ inch Pipe, unless otherwise ordered.

	6 IN. STROKE.	10 IN. STROKE.
No. 4, Complete	\$12 00	\$13 50
“ 5, “	13 00	14 50

WIND-MILL FORCE PUMP STANDARD.

With Cock in Spout.

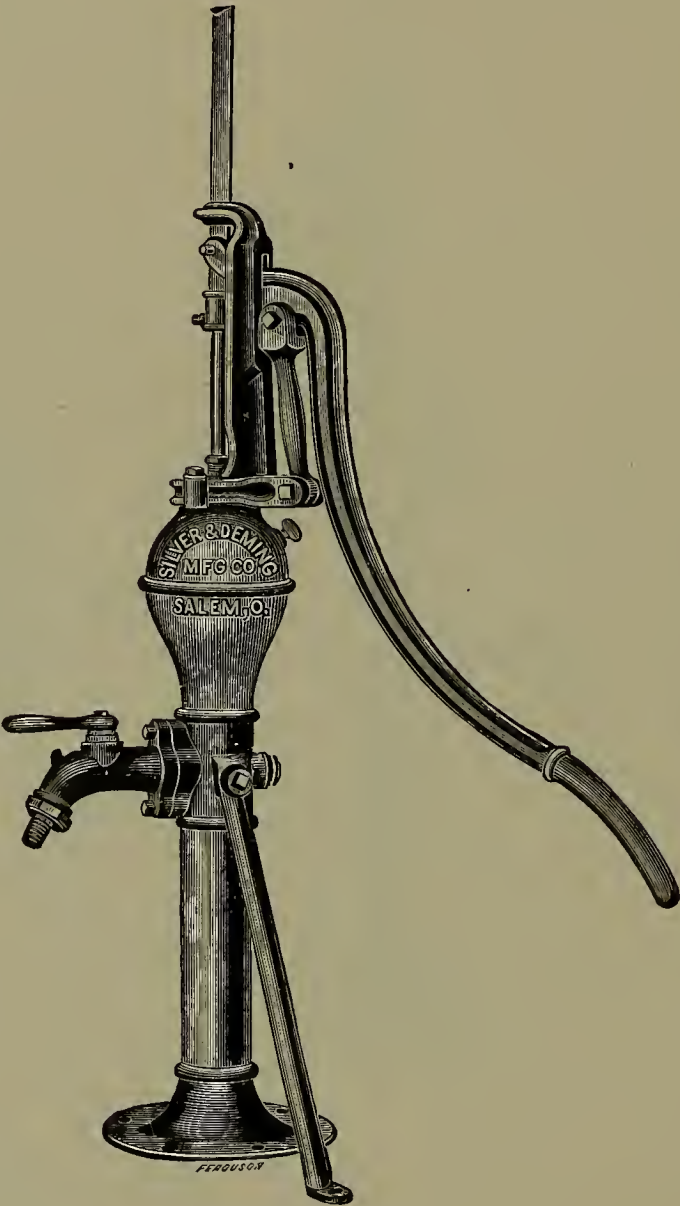


Fig. 411.

Fig. 411 represents the same Pump as Fig. 404, with the addition of a Cock in Spout. For general description see preceding page. Fitted for 1, 1¼, 1½ or 2 inch Pipe, but always for 1¼ inch Pipe unless otherwise ordered.

		6 IN. STROKE.	10 IN. STROKE.
No. 4 Standard Complete.....		\$14 00	\$15 50
" 5 " "		15 00	16 50

SPECIAL WIND-MILL FORCE PUMP STANDARD.

With Cock and Flanged Base.

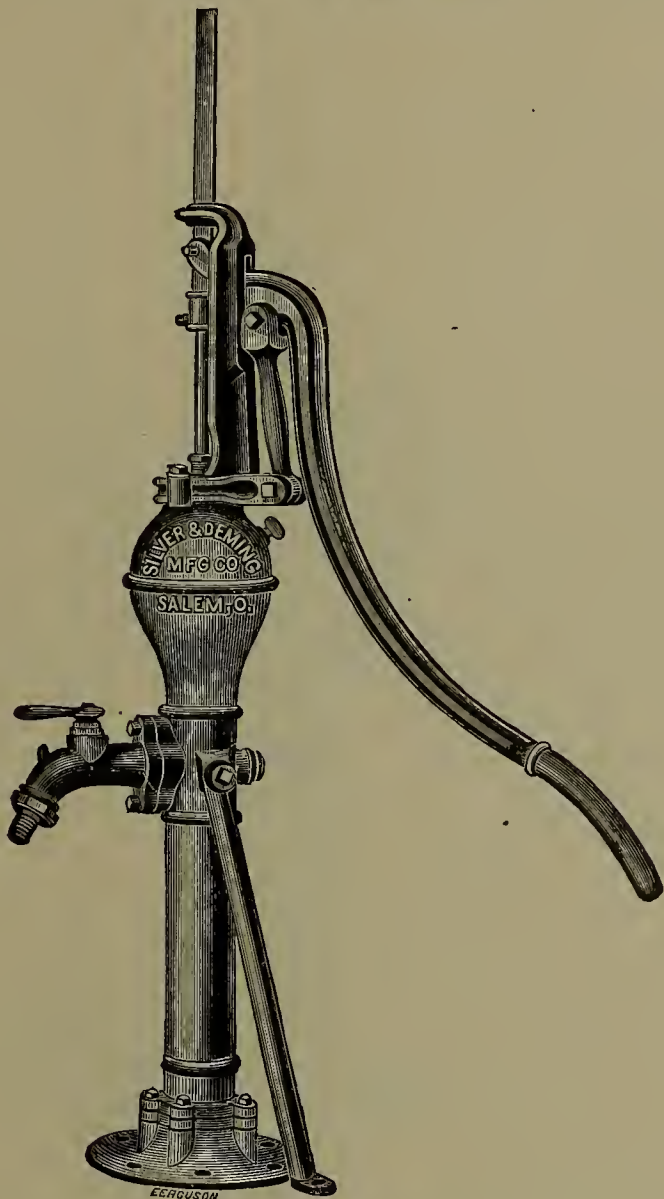


Fig 412.

Fig. 412 represents another of our special Wind-Mill Force Pump Standards. Like Fig. 407, a Flange is introduced at the base which admits of connecting with pipe up to 3 inches in diameter. In all other respects the Pump is identical with that shown as Fig. 411. This style of Force Pump is often preferred on account of its compactness, the Air Chamber being formed by the swell in upper part of Standard. It is especially adapted to *Tubular* or *Artesian Wells*.

SIZES AND PRICES.

	6 IN. STROKE.	10 IN. STROKE.
Standard, Complete.....	\$15 50	\$17 00
Extra Flanges cut for 1 and 1¼ inch Pipe.....	each,	50
“ “ “ 1½, 2, 2½ or 3 inch Pipe.....	“	60

WIND-MILL FORCE PUMP STANDARD.

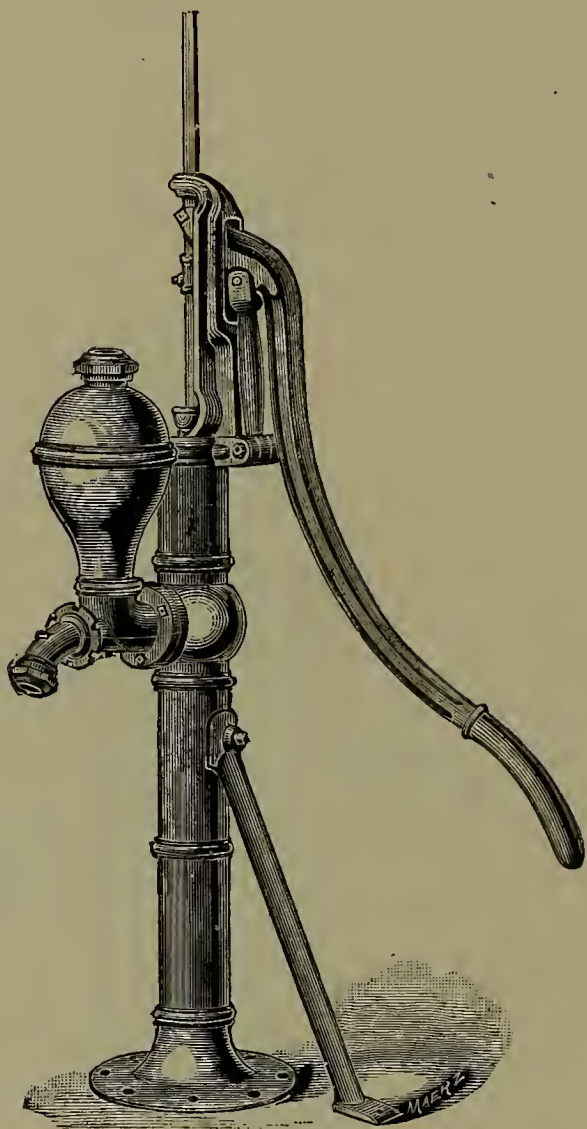


Fig. 405.

Fig. 405 represents a Force Pump Standard, embracing the usual appliances necessary for a Wind-Mill Pump. In construction, it is not unlike Fig. 400. It has a Revolving Top, and is supported by a substantial Brace. The Connecting Pipe from the Cylinder is attached in the body of the Pump, below the Spout, making it less liable to be affected by frost. The threads are cut for either 1, 1 $\frac{1}{4}$, 1 $\frac{1}{2}$ or 2 inch Pipe, but always for 1 $\frac{1}{4}$ inch Pipe, unless otherwise ordered.

	6 IN. STROKE.	10 IN. STROKE.
Fig. 405, complete, as shown in cut.....	\$13 00	\$14 50
With Cock on Spout, \$2.50 extra list.		

SPECIAL WIND-MILL FORCE PUMP STANDARD.

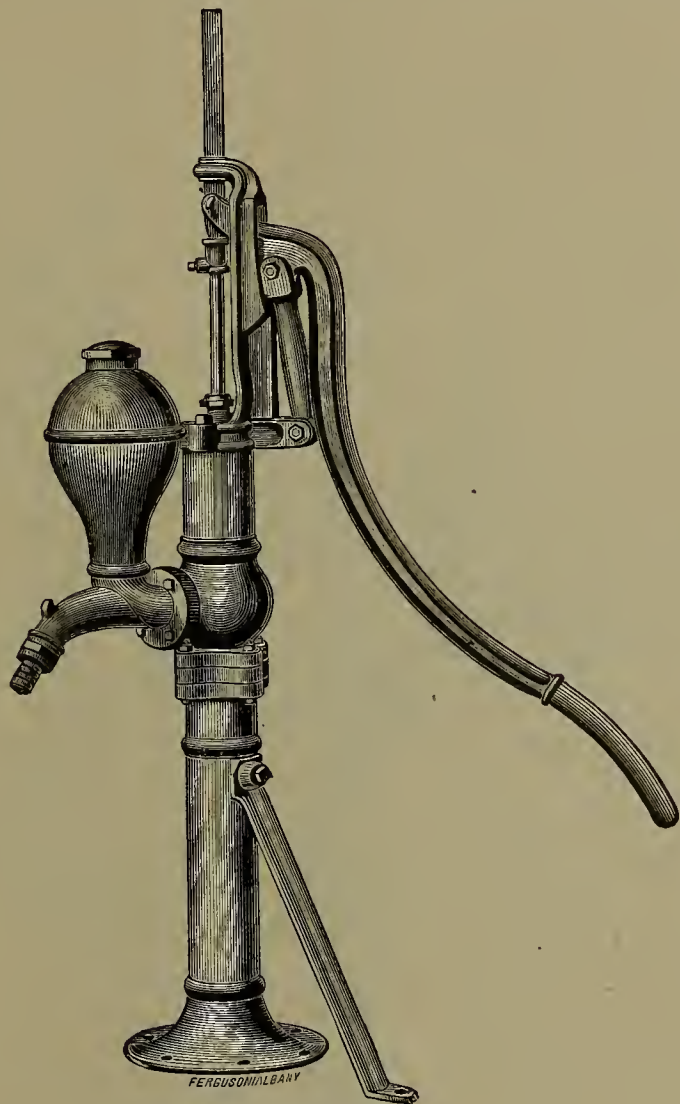


Fig. 406.

This cut exhibits our Special Wind - Mill Force Pump Standard, which is peculiarly adapted to heavy work, as in deep wells, or where an unusual quantity of water is to be raised. The Pump is made in two sections, between which is introduced an independent Flange, screwed for wrought iron Pipe. The advantages of this arrangement are apparent. The Connecting Flanges can be Screwed for any size of Pipe up to 2½ inches.

	6 IN. STROKE.	10 IN. STROKE.
Standard, complete, as shown in cut	\$13 50	\$15 00
Extra Flanges, cut for 1 or 1¼ inch Pipe, each.....		50
“ “ “ “ 1½, 2 or 2½ inch Pipe, each.....		60
With Cock on Spout, add \$2.50 to list.		

SPECIAL WIND-MILL FORCE PUMP STANDARD.

With Cock and Flanged Base.

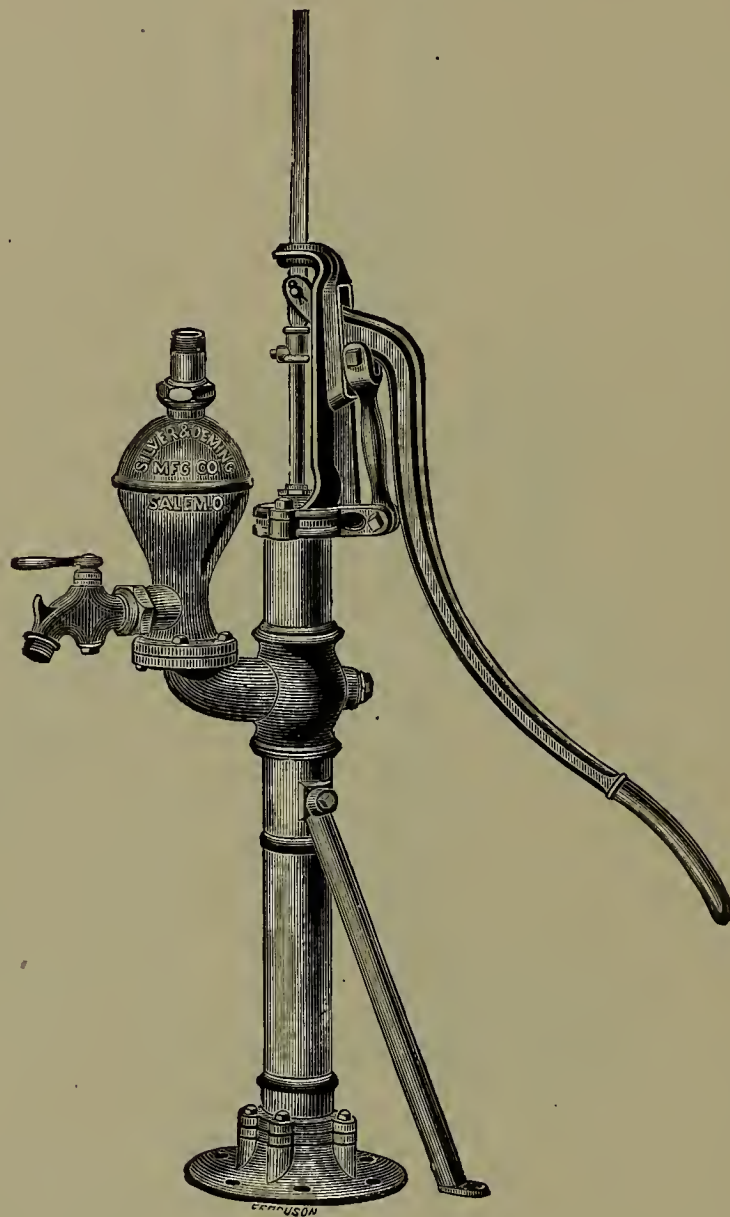


Fig. 407.

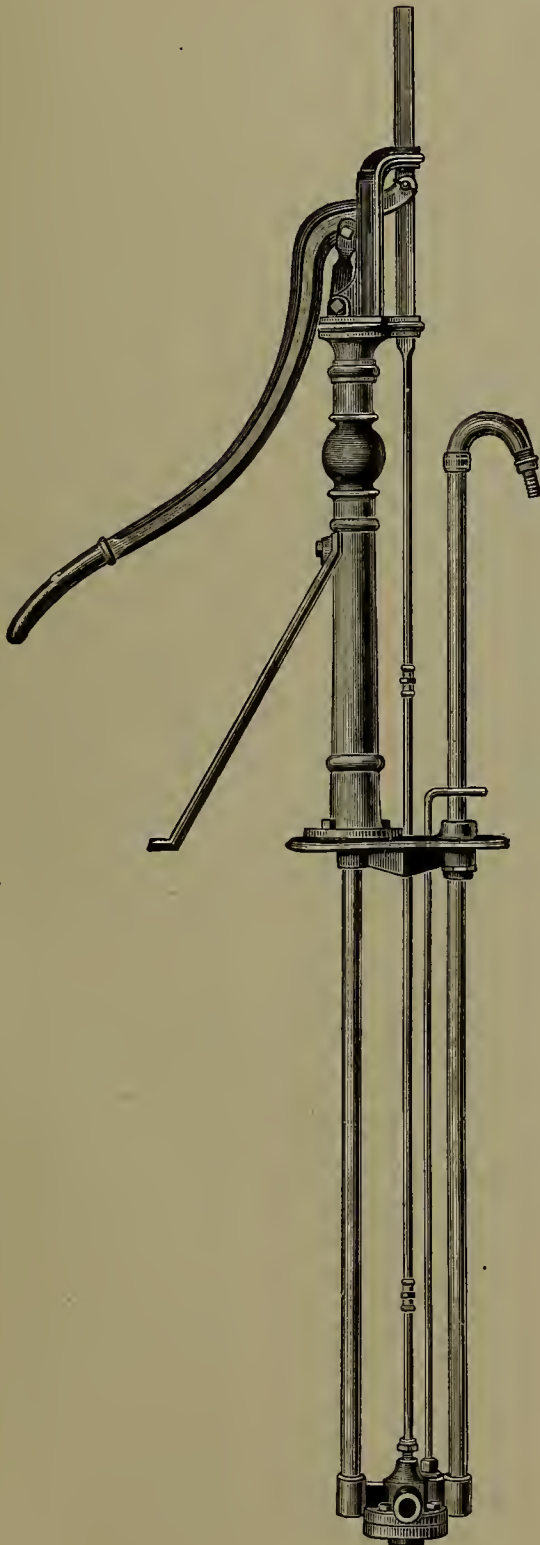
Fig. 407 represents a Pump similar in design to Fig. 406, differing only in that it has the addition of a Cock on Spout and Back Outlet. The *Flange Pipe Attachment* is located at the base of the Pump, which admits of attaching to Pipe up to 3 inches in diameter. This Pump is especially adapted to large size *Tubular* or *Artesian Wells*.

6 IN. STROKE. 10 IN. STROKE.

Standard, complete.....	\$16 00	\$17 50
Extra Flanges, cut for 1 or 1 $\frac{1}{4}$ inch Pipe.....		50
“ “ “ “ 1 $\frac{1}{2}$, 2 or 2 $\frac{1}{2}$ inch Pipe.....		60

ANTI-FREEZING WIND-MILL FORCE PUMP.

With Three-Way Cock.



This illustration correctly represents our Fig. 409, a style of Pump which, with Wind-Mill manufacturers, has met with much favor, and very justly, as it combines many features not covered in any Pump previously introduced, viz.: A Standard absolutely independent of any of the working parts of the Pump. The double Water-Way, in connection with the Three-Way Cock, governed by a rod projecting through the Base of the Pump, directing the water either through the Discharge, above the platform, or through a line of pipe running underground to any point desired. By this means, the water may be forced from a well or reservoir, no matter where located, into a residence, barn, or into a tank, from which a stock tank, a lawn hydrant, or a fountain, can be readily supplied. The Three-Way Cock and Stuffing Box are located four feet below the Base, which prevents it from freezing in cold weather. The Pipe connecting with the Base of the main Standard forms an Air Chamber of sufficient area to produce an even and steady discharge of water. The Cylinder can be located at any point desired, below the working head.

6 IN. STROKE. 10 IN. STROKE.

Price, complete, as shown		
in cut.....	\$18 00	\$19 50

Any part of this Pump can be duplicated on short notice, our connections being all tool-cut, and tested to perfect gauges.

Fig. 409.

ANTI-FREEZING WIND-MILL FORCE PUMP.

With Improved Vertical Distributing Valve.

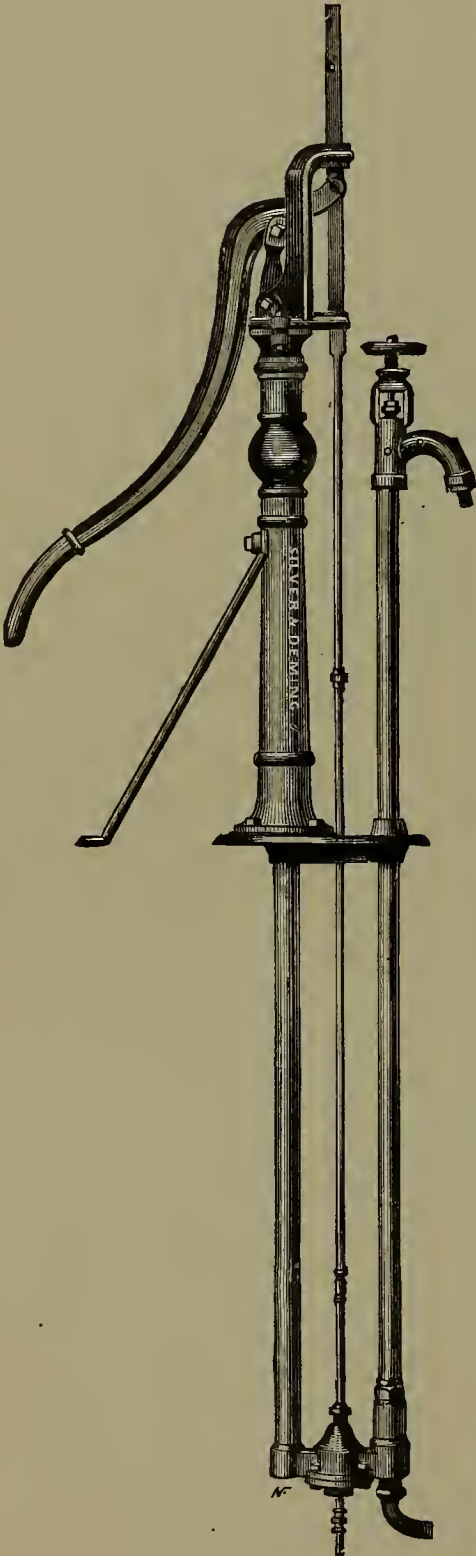


Fig. 410.

The principal advantages of Fig. 410 over other Pumps of this class are as follows :

The brass Three-Way Cock and Taper Plug are superseded by a plain Vertical Valve, made of soft, pure rubber, which is very elastic and durable, so carefully made that it can not wear out, even with careless usage, for many years, and will not stick or corrode. This style of Valve is of our own invention, and much superior to any other in use. It can readily be removed and replaced by any inexperienced person in a few minutes.

The Vertical Valve is actuated by a star (or wheel) and a brass screw, which are connected to the Valve by a strong, well guided rod, the whole arrangement being impervious to frost, very simple, easily operated, and not at all liable to get out of order.

The Valve openings are very large, admitting of a free discharge of water in either direction.

A decided improvement over any other similar Pump made is the Union Coupling and Elbow on the underground discharge. By this means, the handle may be turned in any direction most convenient for use, and the Elbow turned to suit the direction of the pipe in the ditch. It also saves the purchaser the expense of a malleable union for each Pump. The Discharge Pipe is enlarged to $1\frac{1}{4}$ inch, and the Air Chamber Pipe to 2 inches. This gives an Air Chamber capacity four times as great as when a 1 inch pipe Air Chamber is used, insures a steady flow of water from the spout, and relieves the Wind-Mill or operator of about one-fourth the labor required to operate the old style Pump.

We have also adapted Fig. 410 to use on 2 inch and $2\frac{1}{2}$ inch Tubular Wells, and by our arrangement, the Plunger may be entirely withdrawn from the well pipe, without removing either the Standard or flat rod. These improvements are to be found only in Pumps made by us.

When so ordered, we make this Pump with Adjustable Stroke, so arranged that the purchaser can easily adjust it to either 6, 8 or 10 inch stroke.

SIZES AND PRICES.

Fig. 410, with 6 in. Stroke, arranged to draw out Plunger	\$18 00
" 410, " 10 " " " " "	19 50
" 410, " Adjustable Stroke, " " " "	20 50

Fitted for 1, $1\frac{1}{4}$, $1\frac{1}{2}$, 2 or $2\frac{1}{2}$ inch Suction Pipe, but always for $1\frac{1}{4}$ inch, unless otherwise specified.

Fitted for $\frac{3}{4}$, 1, $1\frac{1}{4}$ or $1\frac{1}{2}$ inch Discharge Pipe but always for 1 inch, unless otherwise specified.

HAND FORCE PUMP ON BASE.

With Wind-Mill Top.

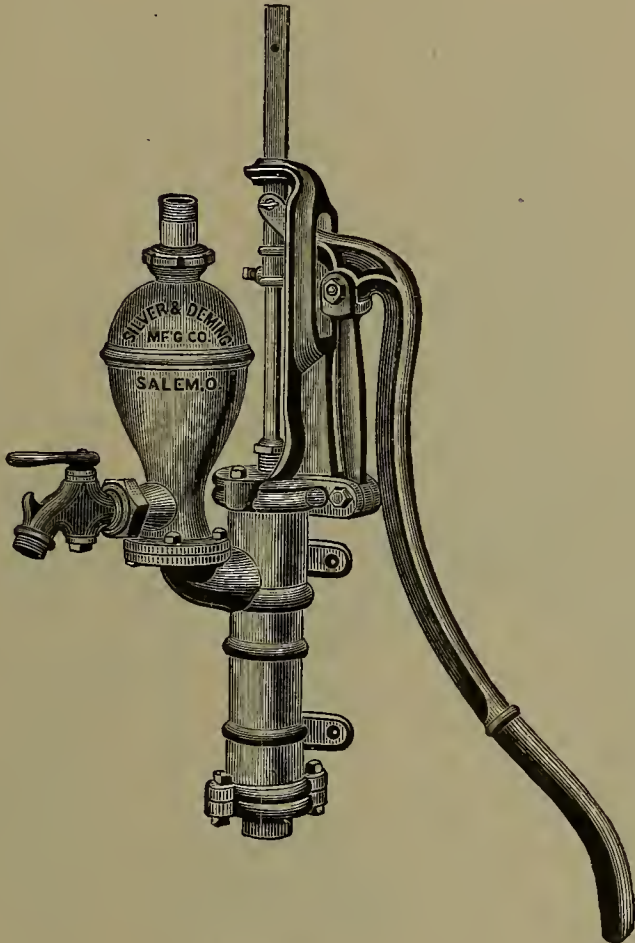


Fig. 430.

The above style of Pump can be used in connection with Wind-Mills, or in any place where power can be applied. It is also arranged to be worked by hand. In cold climates, to prevent freezing, raise the Lever to its extreme height, which will trip the Valves, and allow the water to escape from the Cylinder.

SIZES AND PRICES.

	IRON.	BRASS CYLINDER.	*BRASS.
No. 2, 2½ inch Bore for 1¼ inch Pipe.....	\$13 50	\$19 00	\$24 50
“ 3, 3 “ “ 1¼ “ “	15 50	20 50	36 00
“ 4, 3½ “ “ 1½ “ “	23 00	31 00	45 00
“ 5, 4 “ “ 2 “ “	24 00	37 00	54 00

No. 2 and No. 3 Pumps have 6 inch stroke. Nos. 4 and 5, 8 inch stroke.

* All Brass, except Air Chamber, Lever, Fulcrum and Base.

HAND FORCE PUMP WITH BRACKETS.

With Wind-Mill Top.

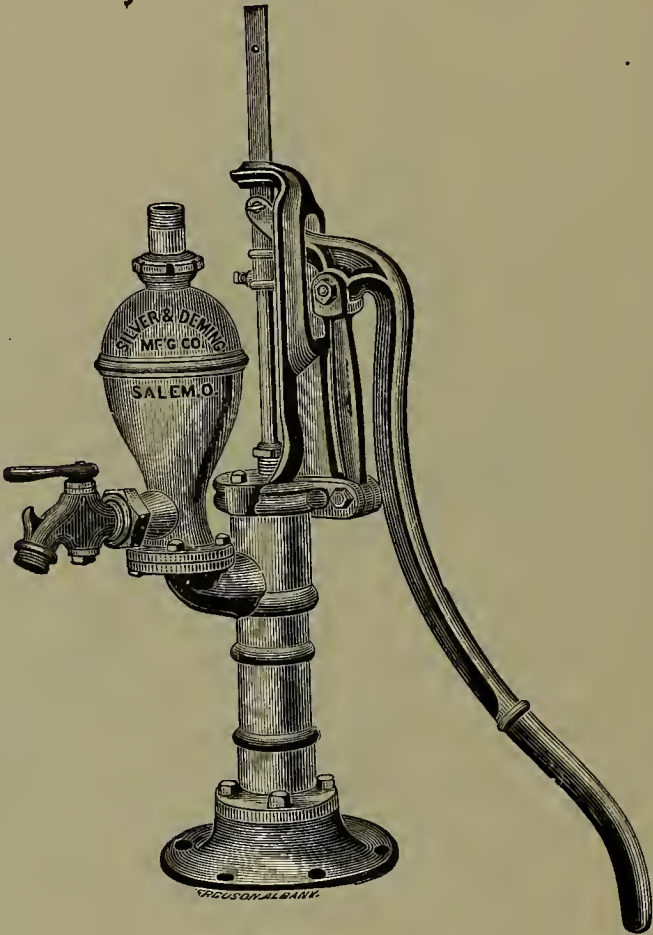


Fig. 431.

The above cut represents a Pump identical with that on the opposite page, in both adaptation and construction, excepting that it is made with *Brackets* instead of *Base*.

SIZES AND PRICES.

	IRON.	BRASS CYLINDER.	*BRASS.
No. 2, 2½ inch Bore, for 1¼ inch Pipe.....	\$13 50	\$19 00	\$24 50
" 3, 3 " " " 1¼ " "	15 50	20 50	36 00
" 4, 3½ " " " 1½ " "	23 00	31 00	45 00
" 5, 4 " " " 2 " "	24 00	37 00	54 00

No. 2 and No. 3 Pumps have 6 inch stroke. No. 4 and 5, 8 inch stroke.

* All Brass, excepting Air Chamber, Lever, Fulcrum and Base.

FORCE PUMPS ON PLANK.

Arranged for Power.

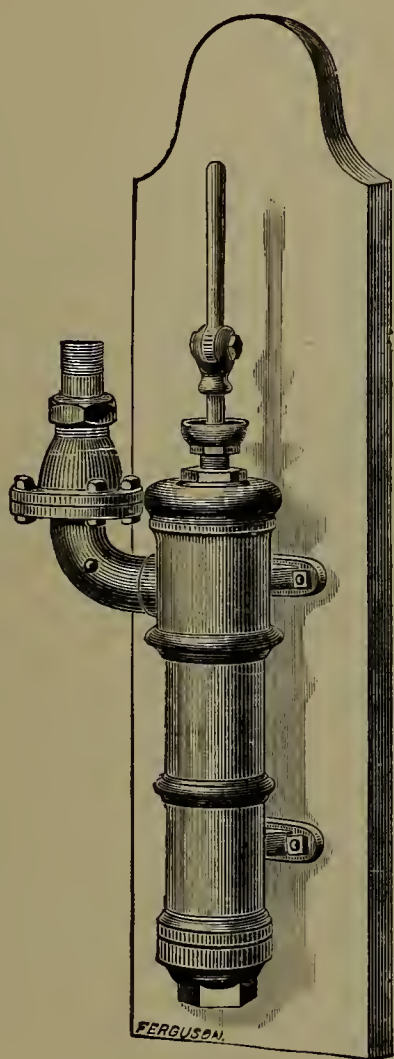


Fig. 500.



Forked Rod.

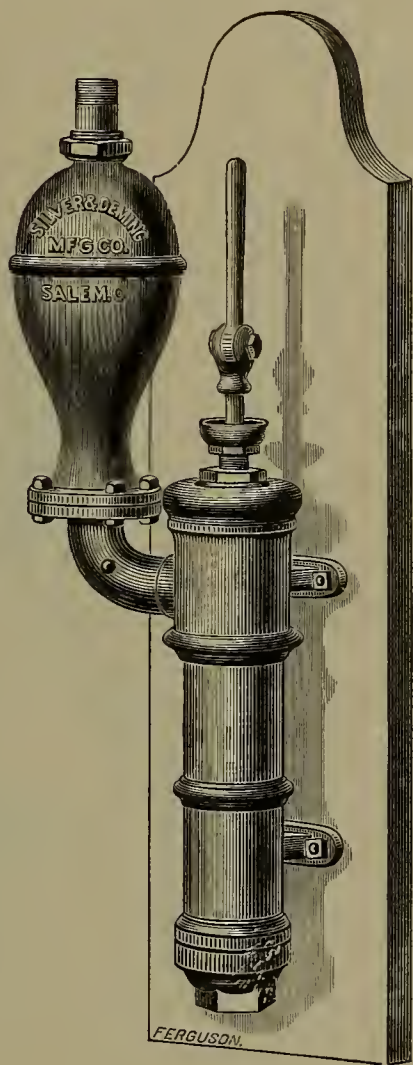


Fig. 501.

We illustrate above Force Pumps arranged for attaching power. They are cheap and effective, and are adapted to any place where a simple power Pump is required.

SIZES AND PRICES.

					IRON.	BRASS.
No. 1 (Fig. 500),	2	inch Bore for	1	inch Pipe....	\$7 50	\$16 00
" 2	"	2 1/2	"	" " 1 1/4 " "	8 00	18 00
" 3	"	3	"	" " 1 1/4 " "	8 50	20 00
No. 1 (Fig. 501),	2	inch Bore, for	1	inch Pipe.....	9 00	18 00
" 2	"	2 1/2	"	" " 1 1/4 " "	9 50	20 00
" 3	"	3	"	" " 1 1/4 " "	10 00	22 00

When arranged with Forked Rod as shown above, add \$3.00 to list.

HAND FORCE PUMP, ON BASE.

With Adjustable Lever and Brass Piston Rod.

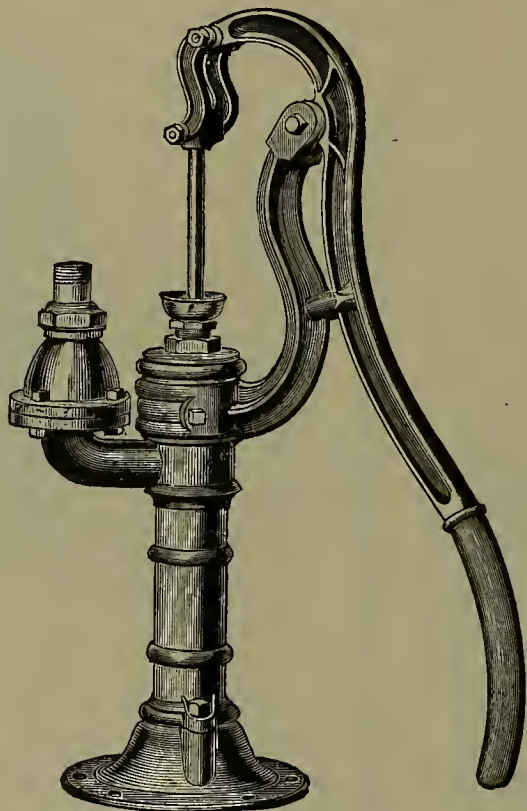


Fig. 502.

	IRON.	BRASS CYLINDER.	*BRASS.
No. 1, 2 inch caliber, for 1¼ inch Pipe	\$ 8 00	\$13 50	\$19 50
" 2, 2½ " " " 1¼ " "	9 50	14 00	21 00
" 3, 3 " " " 1¼ " "	11 00	15 00	32 00
" 4, 3½ " " " 1½ " "	17 00	24 00	38 00
" 5, 4 " " " 1½ or 2 "	18 00	30 00	47 00

*All Brass excepting Lever, Fulcrum and Base.

The 2, 2½ and 3 inch Pumps have 6 inch stroke; the 3½ and 4 inch have 8 inch stroke.

Each Pump has *Brass* Valve-Seat, and is fitted with Coupling below Base, for both lead and iron Pipe. All threads cut to exact gauges; repairs will always fit.

To trip the Valve, and prevent freezing, raise the Lever to its extreme height.

HAND FORCE PUMP, ON PLANK.

With Adjustable Lever and Brass Piston Rod.

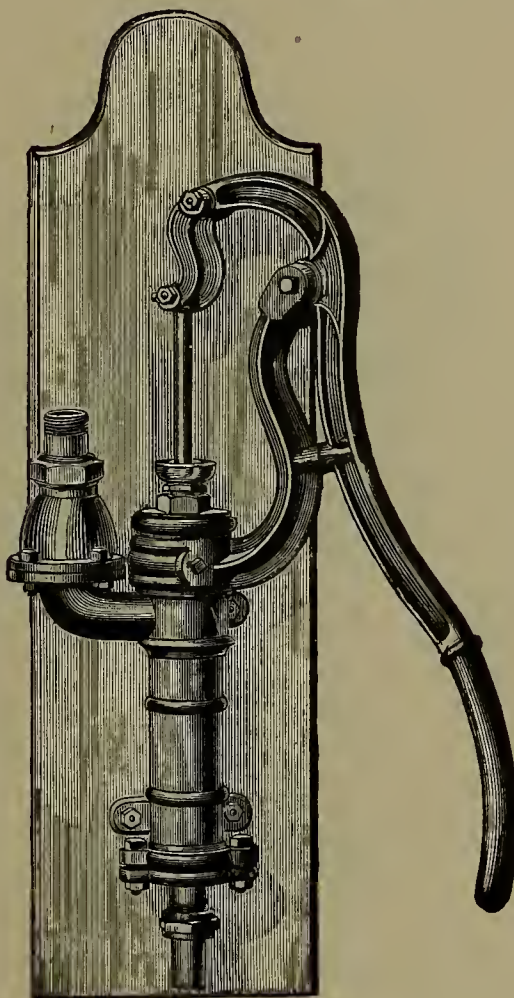


Fig. 503.

		IRON.	BRASS CYL	*BRASS.
No. 1, 2 inch caliber, for	1 1/4 inch Pipe.....	\$ 8 00	\$13 50	\$19 50
" 2, 2 1/2 "	" " 1 1/4 " "	9 50	14 00	21 00
" 3, 3 "	" " 1 1/4 " " ..	11 00	15 00	32 00
" 4, 3 1/2 "	" " 1 1/2 " "	17 00	24 00	38 00
" 5, 4 "	" " 1 1/2 or 2 "	18 00	30 00	47 00

* All Brass, except, Lever, Fulcrum and Base.

The 2, 2 1/2 and 3 inch Pumps have 6 inch stroke ; the 3 1/2 and 4 inch have 8 inch stroke. Each Pump has Brass Valve Seat, and is fitted with Couplings below the Base for both lead and iron pipe. All threads cut to exact gauges ; repairs will always fit.

HAND FORCE PUMP, ON BASE.

With Adjustable Lever, Air Chamber and Brass Piston Rod.

UPWARD DISCHARGE.

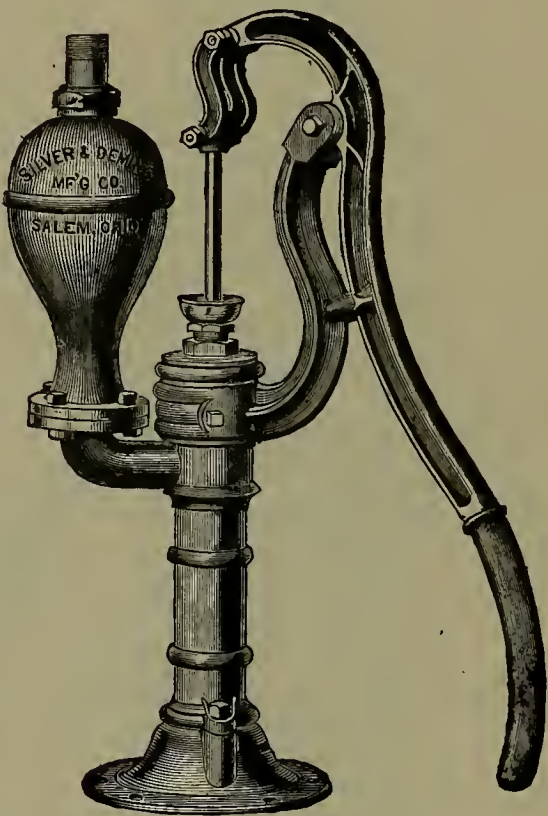


Fig. 504.

	IRON.	BRASS CYL.	*BRASS.
No. 1, 2 inch caliber, for 1¼ inch Pipe	\$ 8 50	\$14 00	\$19 50
" 2, 2½ " " " 1¼ " "	10 00	15 00	22 00
" 3, 3 " " " 1¼ " "	12 00	16 00	33 00
" 4, 3½ " " " 1½ " "	18 00	26 00	40 00
" 5, 4 " " " 1½ or 2 "	21 00	2 00	9 00

* All Brass, except Air Chamber, Lever, Fulcrum and Base.

The 2, 2½ and 3 inch Pumps have 6 inch stroke; the 3½ and 4 inch have 8 inch stroke. Each Pump has Brass Valve Seat; and is fitted with Couplings below Base, for both lead and iron Pipe. All threads cut to exact gauges; repairs will always fit.

To trip the Valve, and prevent freezing, raise the Lever to its extreme height.

HAND FORCE PUMP, ON PLANK.

With Adjustable Lever, Air Chamber, and Brass Piston Rods.

UPWARD DISCHARGE.

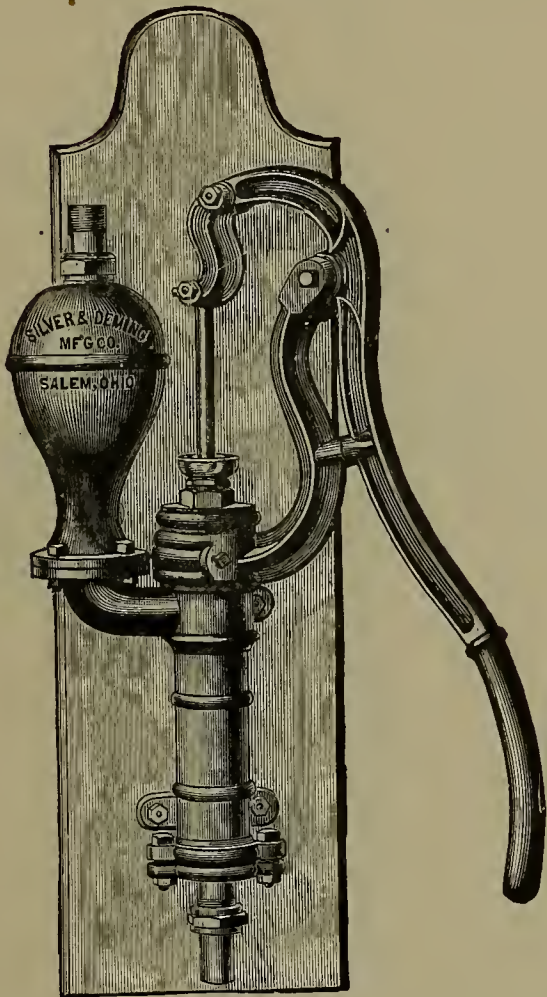


Fig. 505.

	IRON.	BRASS CYLINDER.	*BRASS.
No. 1, 2 inch caliber, for 1 1/4 inch Pipe	\$ 8 50	\$14 00	\$19 50
" 2, 2 1/2 " " " 1 1/4 " "	10 00	15 00	22 00
" 3, 3 " " " 1 1/4 " "	12 00	16 00	33 00
" 4, 3 1/2 " " " 1 1/2 " "	18 00	26 00	40 00
" 5, 4 " " " 1 1/2 or 2 "	21 00	32 00	49 00

*All Brass, except Air Chamber, Lever, Fulcrum and Base.

The 2, 2 1/2 and 3 inch Pumps have 6 inch stroke ; the 3 1/2 and 4 inch have 8 inch stroke. Each Pump has Brass Valve Seat, and is fitted with Couplings below the Base for both lead and iron Pipe. All threads cut to exact gauges ; repairs will always fit.

HAND FORCE PUMP, ON BASE.

With Adjustable Lever, Air Chamber, and Brass Piston Rod.

DOUBLE DISCHARGE.

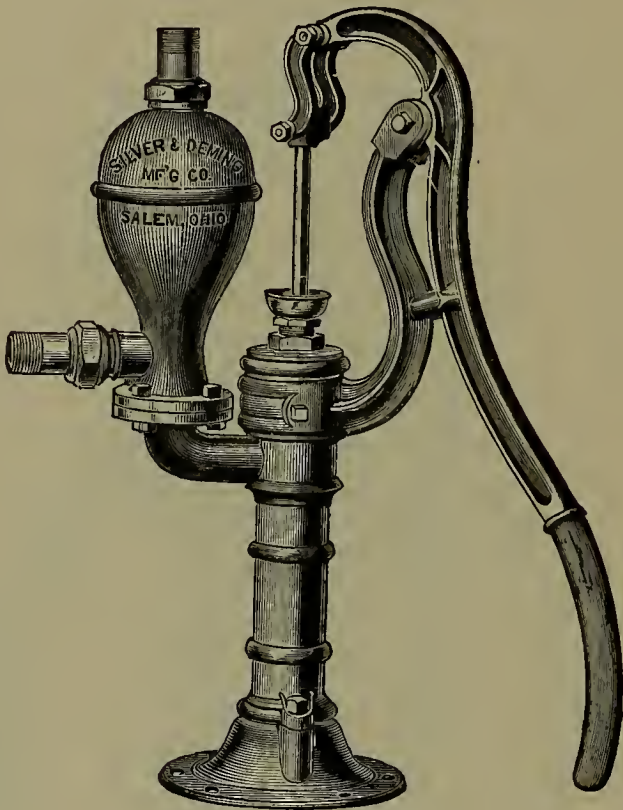


Fig. 506.

	IRON.	BRASS CYLINDER.	*BRASS.
No. 1, 2 inch caliber, for 1¼ inch Pipe.....	\$10 00	\$15 00	\$20 50
“ 2, 2½ “ “ “ 1¼ “ “	11 00	16 00	22 50
“ 3, 3 “ “ “ 1¼ “ “	13 00	18 00	33 50
“ 4, 3½ “ “ “ 1½ “ “	19 00	27 00	41 00
“ 5, 4 “ “ “ 1½ or 2 “	21 00	33 00	50 00

* All Brass, except Air Chamber, Lever, Fulcrum and Base.

The 2, 2½ and 3 inch Pumps have 6 inch stroke ; the 3½ and 4 inch have 8 inch stroke. Each Pump has Brass Valve Seat, and is fitted with Couplings below Base, for both lead and iron Pipe. All threads cut to exact gauges; repairs will always fit.

To trip the Valve and prevent freezing, raise the Lever to its extreme height.

HAND FORCE PUMP, ON PLANK.

With Adjustable Lever, Air Chamber and Brass Piston Rod.

DOUBLE DISCHARGE.

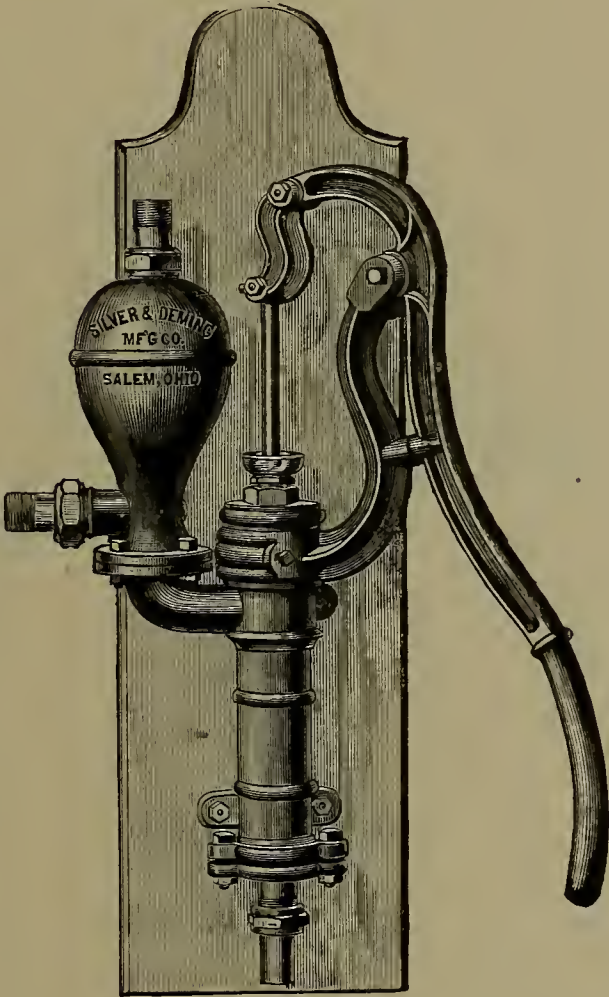


Fig. 507.

	IRON.	BRASS CYL.	*BRASS.
No. 1, 2 inch caliber, for 1 1/4 inch Pipe.....	\$10 00	\$15 00	\$20 50
" 2, 2 1/2 " " " 1 1/4 " "	11 00	16 00	22 50
" 3, 3 " " " 1 1/4 " "	13 00	18 00	33 50
" 4, 3 1/2 " " " 1 1/2 " "	19 00	27 00	41 00
" 5, 4 " " " 1 1/2 or 2 "	21 00	33 00	50 00

* All Brass, except Air Chamber, Lever, Fulcrum and Base.

The 2, 2 1/2 and 3 inch Pumps have 6 inch stroke ; the 3 1/2 and 4 inch have 8 inch stroke. Each Pump has Brass Valve Seat, and is fitted with Couplings below Base for both iron and lead Pipe. Threads cut to exact gauges. To trip the Valve and prevent freezing, raise the Lever to its extreme height.

HAND FORCE PUMP, ON BASE.

With Adjustable Lever, Air Chamber and Brass Piston Rod.

WITH COCK ON SPOUT.

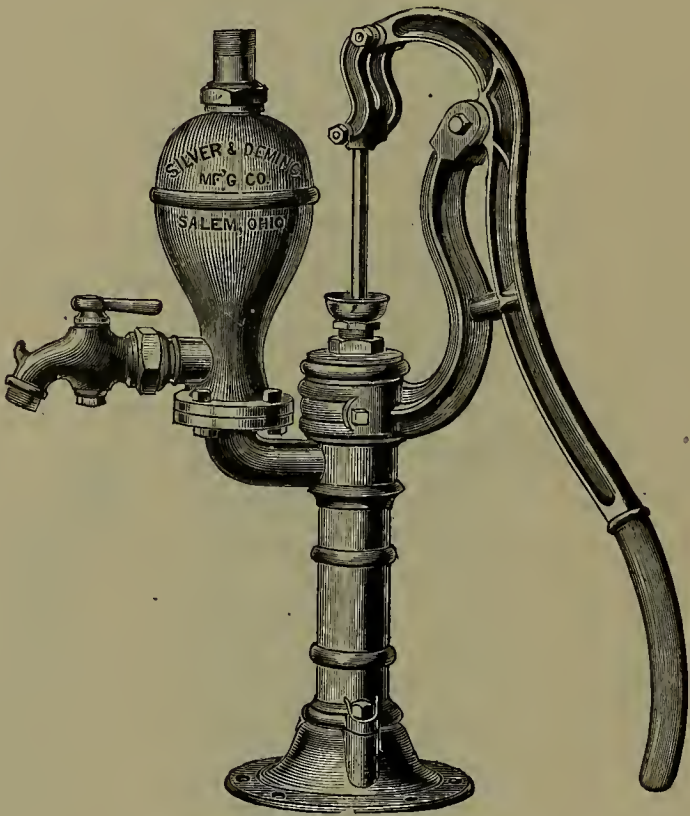


Fig. 508.

	IRON.	BRASS CYL.	*BRASS.
No. 1, 2 inch caliber, for $1\frac{1}{4}$ inch Pipe	\$11 00	\$16 50	\$22 00
" 2, $2\frac{1}{2}$ " " " $1\frac{1}{4}$ " "	12 50	18 00	23 50
" 3, 3 " " " $1\frac{1}{4}$ " "	14 50	19 50	35 00
" 4, $3\frac{1}{2}$ " " " $1\frac{1}{2}$ " "	21 50	29 50	43 50
" 5, 4 " " " $1\frac{1}{2}$ or 2 "	22 50	35 50	52 50

* All Brass, except Air Chamber, Lever, Fulcrum and Base.

The 2, $2\frac{1}{2}$ and 3 inch Pumps have 6 inch stroke; the $3\frac{1}{2}$ and 4 inch have 8 inch stroke. Each Pump has Brass Valve Seat, and is fitted with Couplings below Base for both lead and iron Pipe. All threads cut to exact gauges; repairs will always fit.

To trip the Valve and prevent freezing, raise the Lever to its extreme height.

HAND FORCE PUMP, ON PLANK.

With Adjustable Lever, Air Chamber, and Brass Piston Rod.

WITH COCK ON SPOUT.

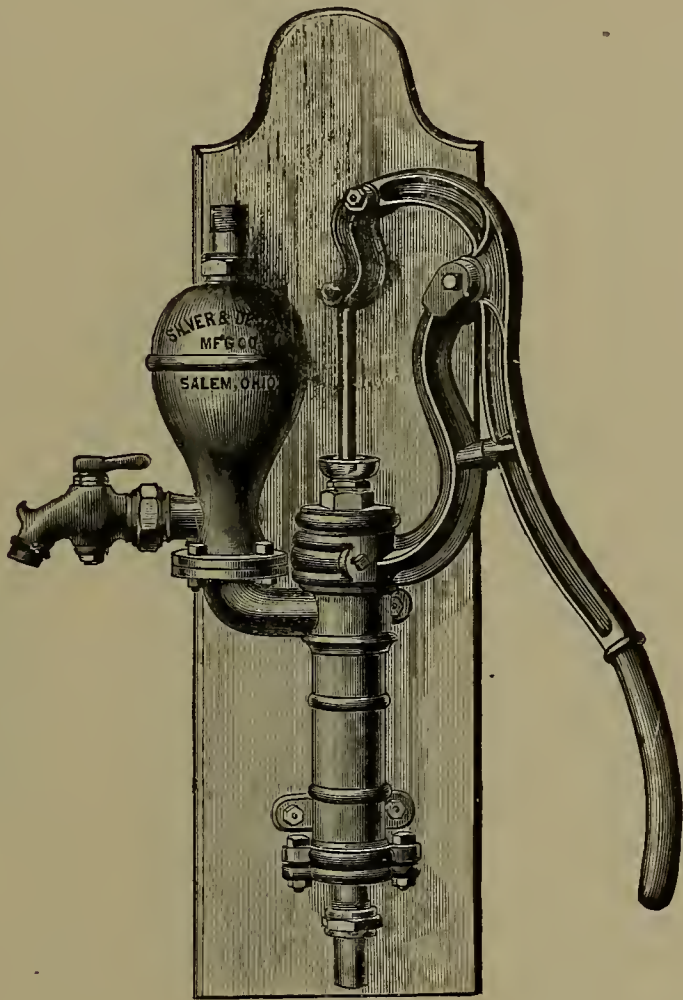


Fig. 509.

	IRON.	BRASS CYLINDER.	*BRASS.
No. 1, 2 inch caliber for 1 1/4 inch Pipe.....	\$11 00	\$16 50	\$22 00
" 2, 2 1/2 " " " 1 1/4 " "	12 50	18 00	23 50
" 3, 3 " " " 1 1/4 " "	14 50	19 50	35 00
" 4, 3 1/2 " " " 1 1/2 " "	21 50	29 50	43 50
" 5, 4 " " " 1 1/2 or 2 "	22 50	35 50	52 50

*All Brass except Air Chamber, Lever, Fulcrum and Base.

The 2, 2 1/2 and 3 inch Pumps have 6 inch stroke ; the 3 1/2 and 4 inch have 8 inch stroke. Each Pump has Brass Valve Seat, and is fitted with Couplings below Base for both lead and iron Pipe. All threads are cut to exact gauges.

HAND FORCE PUMP, ON BASE.

With Adjustable Lever, Air Chamber and Piston Rod.

WITH TIGHT CAP AND SPOUT.

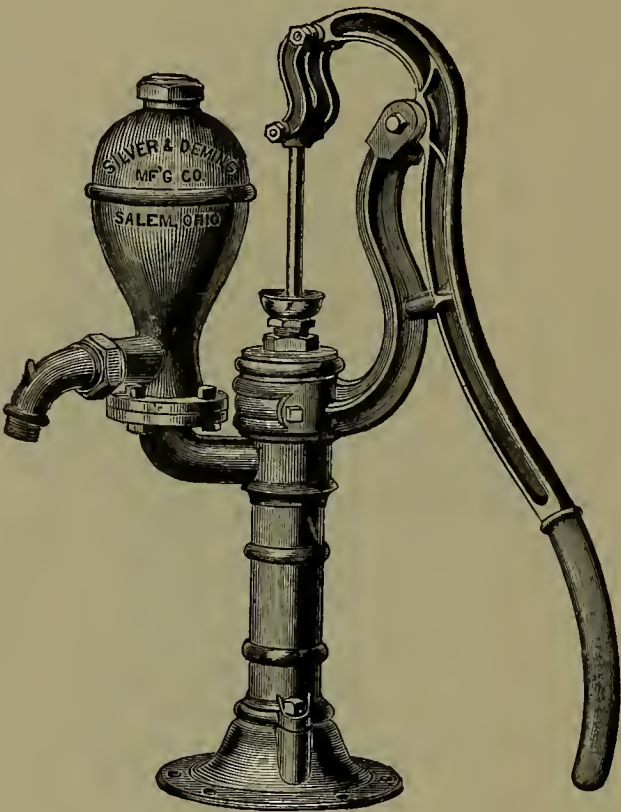


Fig. 510.

	IRON.	BRASS. CYLINDER.	*BRASS
No. 1, 2 inch caliber for 1 1/4 inch Pipe.....	\$9 50	\$14 00	\$21 00
" 2, 2 1/2 " " " 1 1/4 " "	10 00	15 00	22 00
" 3, 3 " " " 1 1/4 " "	12 00	16 00	33 00
" 4, 3 1/2 " " " 1 1/2 " "	18 00	25 00	40 00
" 5, 4 " " " 1 1/2 or 2 "	20 50	32 00	49 00

*All Brass except Air Chamber, Lever, Fulcrum and Base.

The 2, 2 1/2 and 3 inch Pumps have 6 inch stroke ; the 3 1/2 and 4 inch have 8 inch stroke. Each Pump has Brass Valve Seat, and is fitted with Couplings below Base, for both lead and iron Pipe. All threads cut to exact gauges ; repairs will always fit.

To trip the Valve and prevent freezing, raise the Lever to its extreme height.

HAND FORCE PUMP, ON PLANK.

With Adjustable Lever, Air Chamber and Brass Piston Rod.

WITH TIGHT CAP AND SPOUT.

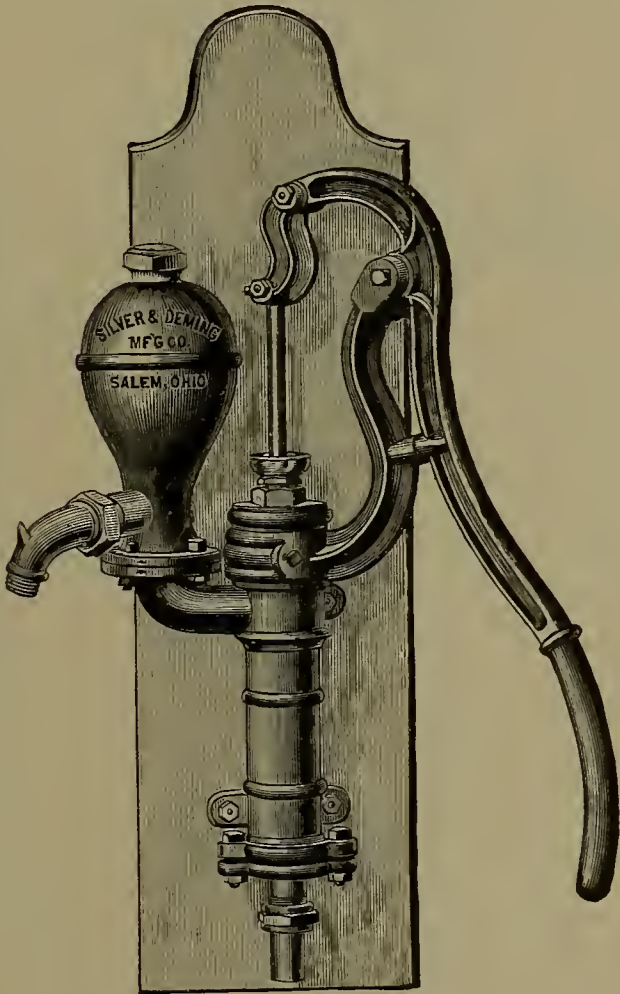


Fig. 511.

	IRON.	BRASS CYL.	*BRASS.
No. 1, 2 inch caliber, for 1 1/4 inch Pipe	\$ 9 50	\$14 00	\$21 00
" 2, 2 1/2 " " " 1 1/4 " "	10 00	15 00	22 00
" 3, 3 " " " 1 1/4 " "	12 00	16 00	33 00
" 4, 3 1/2 " " " 1 1/2 " "	18 00	25 00	40 00
" 5, 4 " " " 1 1/2 or 2 " "	20 50	32 00	49 00

* All Brass, except Air Chamber, Lever, Fulcrum and Base.

The 2, 2 1/2 and 3 inch Pumps have 6 inch stroke; the 3 1/2 and 4 inch have 8 inch stroke. Each Pump has Brass Valve Seat, and is fitted with Couplings below Base for both lead and iron Pipe.

To trip the Valve and prevent freezing, raise the Lever to its extreme height.

HAND FORCE PUMP, ON BASE,
With Wrought Iron Set-Length.

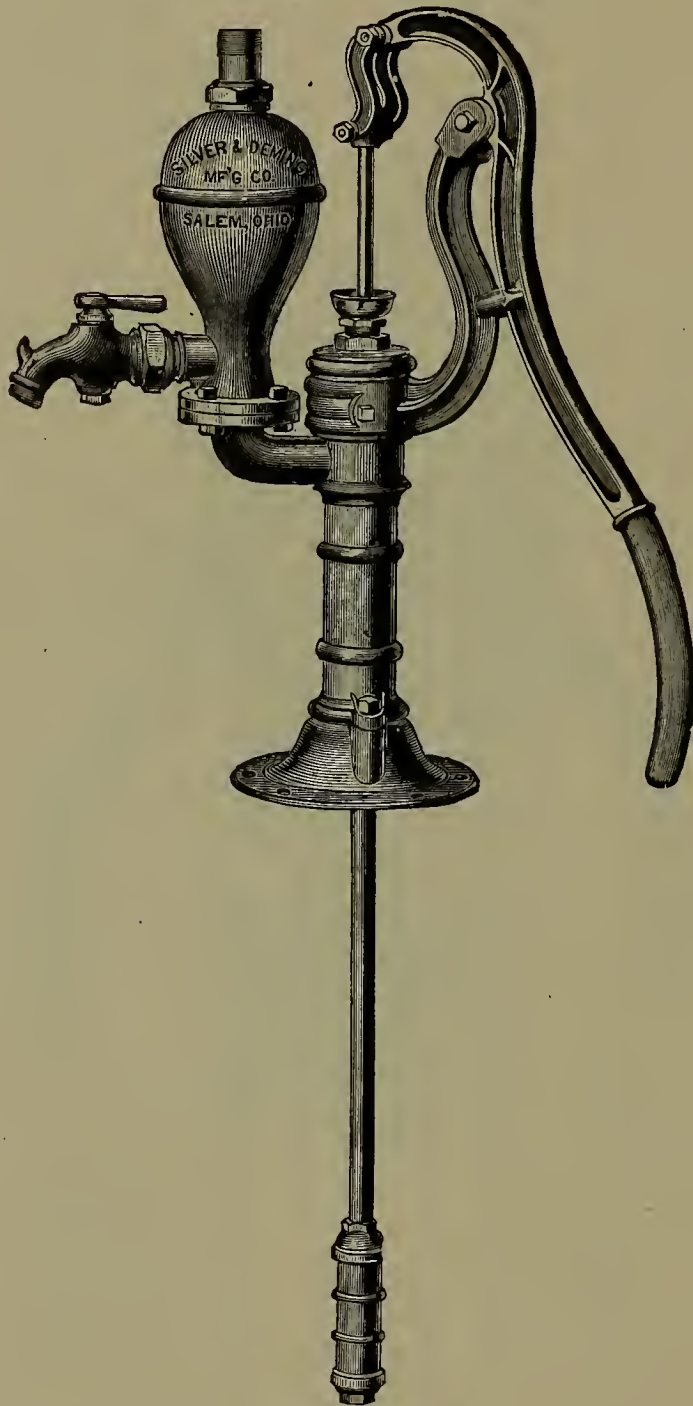


Fig. 512.

The above Pump is similar to our Fig. 508. It has a Set-Length with the Cylinder three feet below the Base of the Pump. It is rendered anti-freezing in the usual manner by dripping the water from the Connecting Pipe. We can furnish other sizes of the Pump when desired.

SIZES AND PRICES.

No. 2, 2½ inch caliber, 6 inch stroke, for 1¼ inch Pipe.....	\$16 00
" 3, 3 " " 6 " " 1¼ " "	18 00

Three feet Hose and Discharge Pipe, \$3.00 extra list.

HOUSE FORCE PUMP, ON PLANK.

Without Air Chamber, Right or Left Handed.

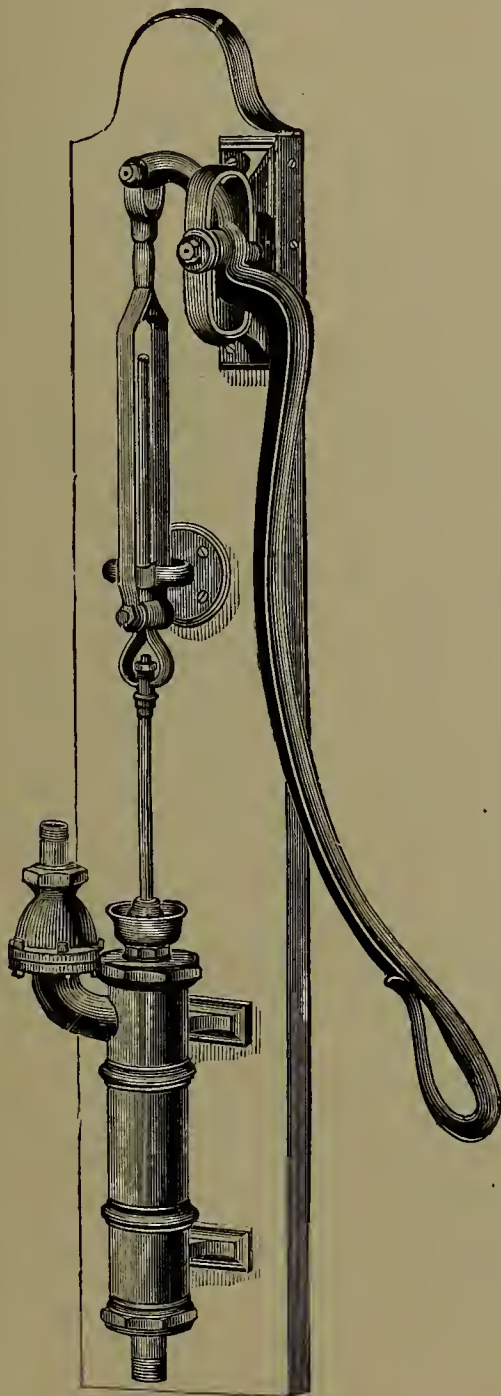


Fig. 520.

This illustration represents our House Force Pump, which we build of *Iron*, *Brass*, and *Iron* with *Brass* Cylinder. They are all made with Brass Piston Rod, and with Pitman and Guide, and mounted on a handsomely ornamented plank. They are all made with Coupling below Base, and are fitted for both lead and iron Pipe. These Pumps are specially adapted to house use, and will give satisfaction in any place where they can be located within 25 feet of the water.

SIZES AND PRICES.

		BRASS		
		IRON.	CYLINDER.	BRASS.
No. 1,	2 inch caliber for 1 or 1 1/4 inch Pipe.....	\$14 00	\$18 00	\$26 00
" 2,	2 1/2 inch caliber for 1 1/4 inch Pipe.....	15 00	20 00	30 00
" 4,	3 inch caliber for 1 1/4 inch Pipe	16 50	22 00	35 00
" 6,	3 1/2 inch caliber for 1 1/2 inch Pipe.....	22 00	32 00	47 00

Length of stroke, 7 inches. \$1.00 less list when ordered without plank. Can furnish with Metallic Valves for pumping hot water when so ordered.

HOUSE FORCE PUMP, ON PLANK.

With Air Chamber, Right or Left Handed.

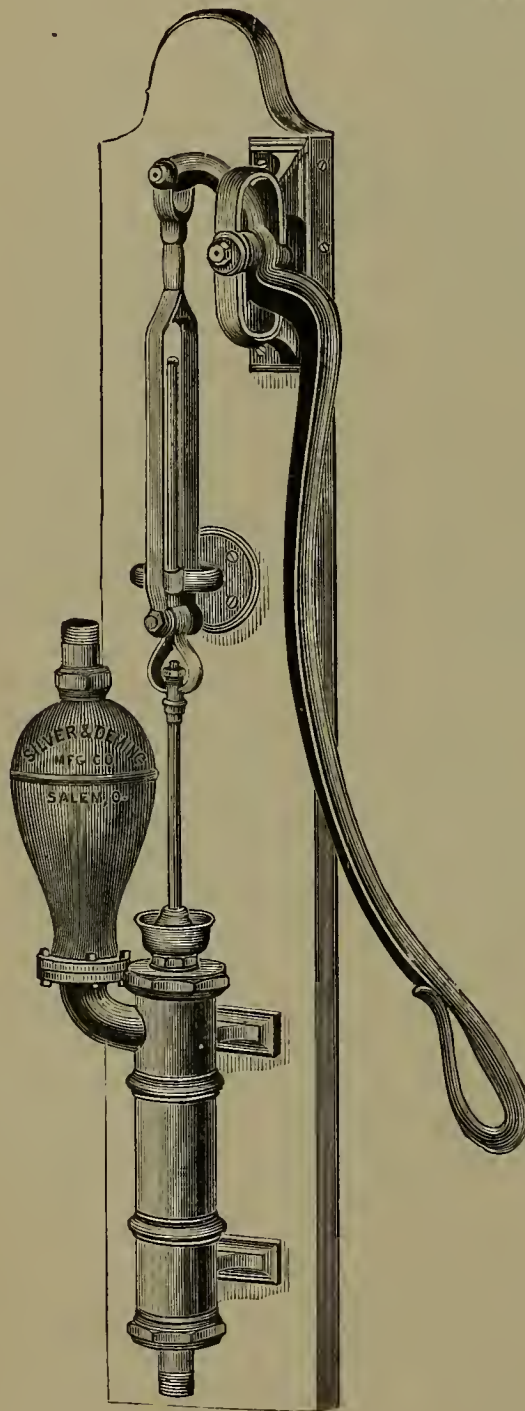


Fig. 521.

This cut represents the same Pump as Fig. 520, with the addition of an Air Chamber, which is of material advantage to the Pump, as it insures a steady and continuous stream of water, and relieves the Pipe from the strain of any sudden concussion.

The Air Chamber Flange Bolts are so located that the Air Chamber can make a quarter, half or three-quarter turn without extra fitting.

SIZES AND PRICES.

No.		BRASS		
		IRON.	CYLINDER.	BRASS.
No. 1,	2 inch caliber for 1 or 1½ inch Pipe	\$16 00	\$21 00	\$28 00
" 2,	2½ inch caliber for 1½ inch Pipe.....	17 00	23 00	32 00
" 4,	3 inch caliber for 1½ inch Pipe	18 50	25 00	37 00
" 6,	3½ inch caliber for 1½ inch Pipe.....	25 00	35 00	50 00

For *Brass* Air Chamber, we charge additional cost of material only. \$1.00 less when ordered without Plank.

With Double Discharge Air Chamber, Nos. 1 and 2, extra list.....	\$0 75
With Double Discharge Air Chamber, Nos. 4 and 6, extra list.....	1 00
Iron Cock with Brass Plug for any of above sizes, extra list.....	2 50
All Brass Cock for any of above sizes, extra list..	5 00

DOUBLE-ACTING SUCTION AND FORCE PUMP, ON PLANK.

With Brass Plston Rod. Right or Left Handed.

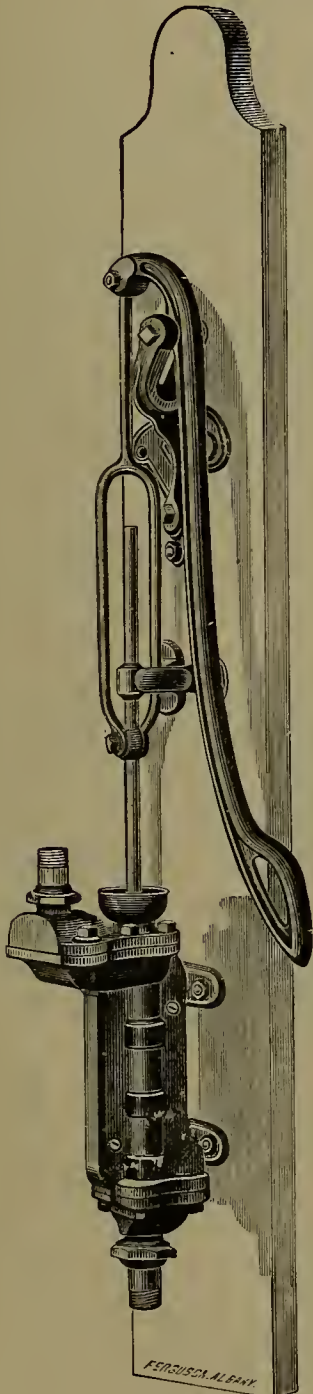


Fig. 541.

Fig. 541 represents our Double-Acting Suction and Force Pump, without Air Chamber. It is mounted on Plank, and can be used either right or left handed.

This Pump being double-acting, will furnish double the quantity of water that would be supplied by a single-acting Pump of the same caliber, but requires an additional outlay of power. Where a steady and continuous stream of water is required, it will be found an excellent Pump.

Where the distance the water has to be forced is very great, better results will be obtained by using this Pump with Air Chamber, as shown on following page.

Length of stroke, 7 inches.

	SIZES AND PRICES,		WITH METALLIC VALVES FOR HOT WATER.
	IRON	BRASS.	
No. 1, 2¼ inch caliber, for 1 or 1¼ inch Pipe..	\$14 00	\$24 00	\$1 75 net, extra.
No. 2, 2½ inch caliber, for 1¼ inch Pipe.....	17 00	29 00	2 25 "
No. 3, 3 inch caliber, for 1¼ or 1½ inch Pipe.....	21 00	40 00	3 00 "
No. 4, 3½ inch caliber, for 1½ or 2 inch Pipe.....	25 00	69 50	4 25 "
No. 5, 4 inch caliber, for 2 inch Pipe...	37 00	94 00	6 00 "
No. 6, 4½ inch caliber, for 2 or 2½ inch Pipe..	50 00	136 00	8 00 "

Deduct \$1.00 from above prices, when ordered without Plank.

DOUBLE-ACTING SUCTION AND FORCE PUMP, ON PLANK.

With Air Chamber and Brass Piston Rod. Right or Left Handed.

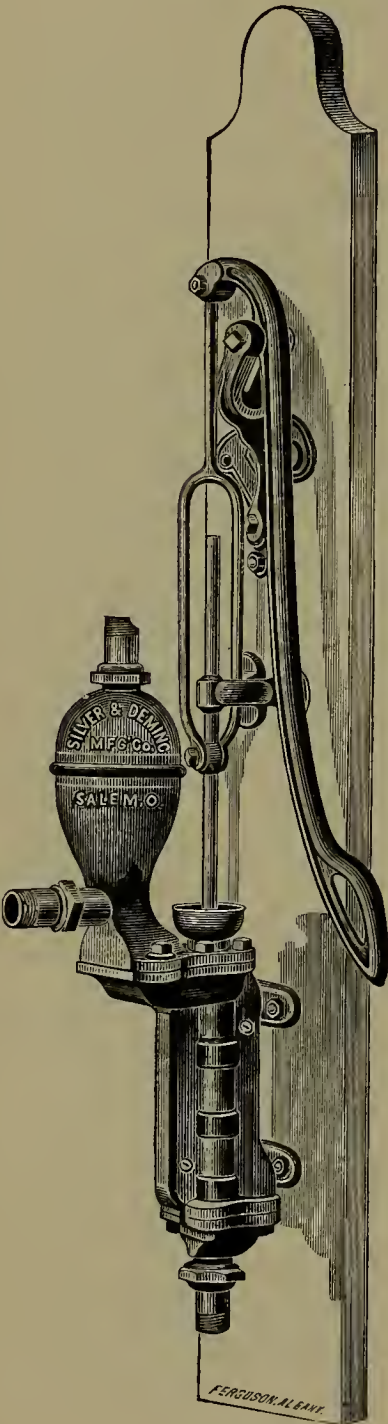


Fig. 542.

Fig. 542 shows the same Pump as described on the preceding page, with the addition of an Air Chamber, which renders it suitable for throwing water through hose, or forcing it a great distance beyond the Pump. The Brass Pumps are always furnished with Iron Air Chambers unless otherwise ordered. When Brass Air Chambers are ordered, we charge additional cost of material only. We furnish with single discharge Air Chamber when so ordered.

Length of stroke, 7 inches.

SIZES AND PRICES.

	IRON.	BRASS.	WITH METALLIC VALVES FOR HOT WATER.
No. 1, 2¼ in. caliber, for 1 or 1¼ in. Pipe	\$16 00	\$26 00	\$1 75 net, extra.
No. 2, 2½ in. caliber, for 1¼ in. Pipe.....	19 00	31 00	2 25 "
No. 3, 3 in. caliber, for 1¼ or 1½ in. Pipe.....	23 50	42 00	3 00 "
No. 4, 3½ in. caliber, for 1½ or 2 in. Pipe.....	28 50	73 00	4 25 "
No. 5, 4 in. caliber, for 2 in. Pipe	42 00	98 00	6 00 "
No. 6, 4½ inch caliber, for 2 or 2½ in. Pipe.....	55 00	141 00	8 00 "

Deduct \$1.00 from above prices, when ordered without Plank.

For Iron Cock with Brass Plug, add \$2.50 to above prices.

For All Brass Cock, add \$5.00 to above prices.

HOUSE FORCE PUMP, WITH FLY WHEEL.

Mounted on Plank, with Crank Shaft and two Handles.

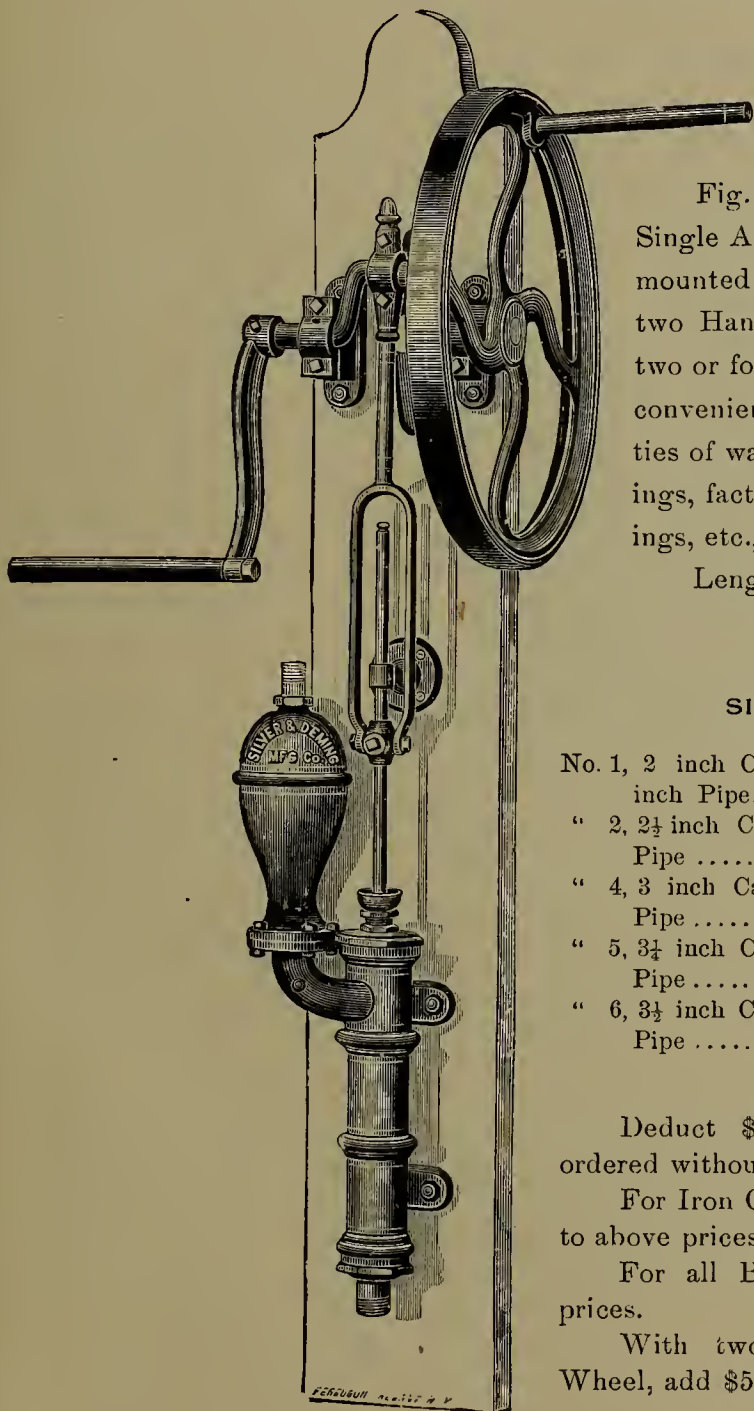


Fig. 526 represents our Improved Single Acting Suction and Force Pump mounted on Plank with Crank Shaft and two Handles, which can be operated by two or four men as desired. It is a very convenient Pump for raising large quantities of water into elevated tanks in dwellings, factories, tanneries, plantation buildings, etc., or for extinguishing fires.

Length of stroke, six inches.

SIZES AND PRICES.

	IRON.	BRASS
No. 1, 2 inch Caliber for 1 or 1½ inch Pipe.....	\$36 00	\$45 00
" 2, 2½ inch Caliber for 1½ inch Pipe	38 00	48 00
" 4, 3 inch Caliber for 1½ inch Pipe	40 00	56 00
" 5, 3½ inch Caliber for 1½ inch Pipe	42 00	70 00
" 6, 3½ inch Caliber for 1½ inch Pipe	45 00	85 00

Deduct \$2.00 from above prices when ordered without Air Chamber.

For Iron Cock with Brass Plug, add \$2.50 to above prices.

For all Brass Cock, add \$5.00 to above prices.

With two Pulleys instead of Balance Wheel, add \$5.00.

Fig. 526.

DOUBLE-ACTING SUCTION AND FORCE PUMP, ON PLANK.

With Tight and Loose Pulleys for Power.

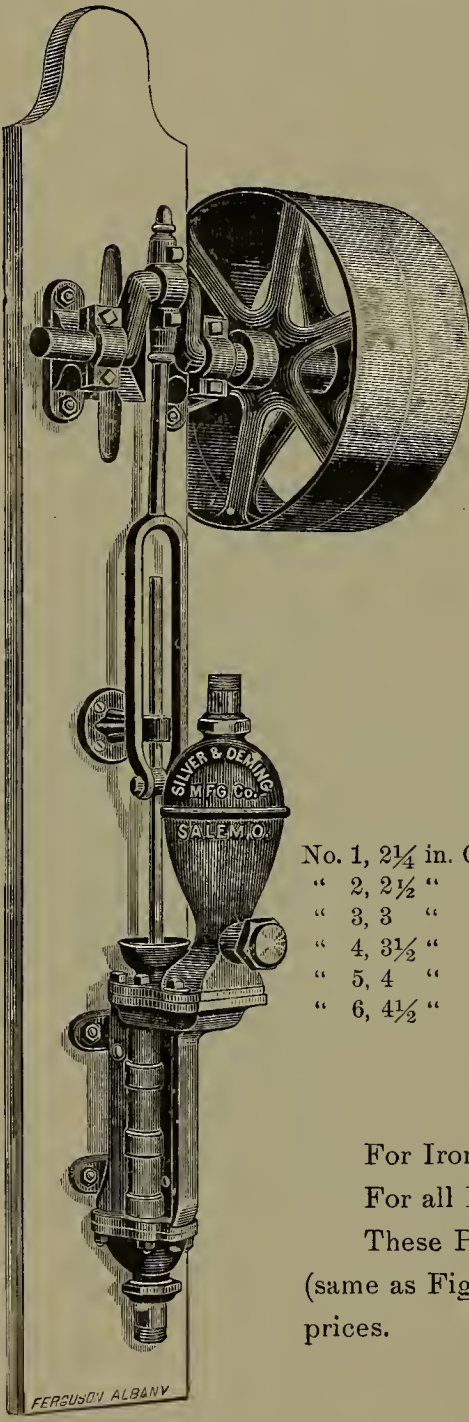


Fig. 543 represents our Double-Acting Suction and Force Pump, on Plank, with tight and loose Pulleys for Power.

In ordering these Pumps state the quantity of water to be raised, size of Driving Pulley, and speed of Main Shaft, and we will fit them with Pulleys of the proper size.

The Brass Pumps are always furnished with Iron Air Chambers, unless otherwise ordered. When Brass Air Chambers are ordered we charge additional cost of material only.

Length of stroke, seven inches.

SIZES AND PRICES.

	IRON.	BRASS.	WITH METALLIC VALVES FOR HOT WATER.	
No. 1, 2¼ in. Caliber for 1 or 1¼ in. Pipe	\$39 00	\$ 58 00	\$1 75	net extra.
" 2, 2½ " " " 1¼ " "	41 00	61 00	2 25	"
" 3, 3 " " " 1½ " "	45 00	75 00	3 00	"
" 4, 3½ " " " 2 " "	51 00	94 00	4 25	"
" 5, 4 " " " 2 " "	63 00	119 00	6 00	"
" 6, 4½ " " " 2 " 2½ " "	80 00	160 00	8 00	"

For Iron Cock with Brass Plug, add \$2.50 to above prices.

For all Brass Cock add \$5.00 to above prices.

These Pumps are furnished with two Handles and Fly Wheel (same as Fig. 526) instead of Pulleys, when so ordered, at above prices.

Fig. 543.

“TRIUMPH” HORIZONTAL DOUBLE-ACTING FORCE PUMP.

With Brass Lined Cylinder and Adjustable Lever.



Fig. 600.

Fig. 600 represents our “Triumph” Double-Acting Force Pump, on Iron Frame. The Cylinder is Brass lined, the Piston Rod, Valves and Valve Seats are Bronze, and all other wearing parts exposed to the action of the liquids are rendered non-corrosive. Brass Plugs are provided at each end of the Bed Plate for letting the water out of the Cylinder to prevent freezing, and a similar Plug may be withdrawn to prime the Pump when necessary. The upper Valves may be reached by unscrewing the Brass Nuts and lifting off the Air Chamber. The lower Valves may be reached by then lifting off the Body of the Pump. We fit these Pumps for both iron Pipe and Hose unless otherwise ordered, but furnish connections for either lead Pipe or Hose, when requested, without extra charge. All sizes have Metallic Valves.

SIZES AND PRICES.

								IRON.	BRASS.	
No. 1,	2½ in.	Bore,	4½ in.	Stroke,	1¼ in.	Suction,	1 in.	Discharge.....	\$27 00	\$58 00
“ 2, 3	“	4½	“	1¼	“	1	“	.....	27 00	58 00
“ 3, 4	“	4½	“	1½	“	1¼	“	.....	28 00	60 00
“ 4, 5	“	5	“	2	“	1½	“	.....	42 00	90 00

A Malleable Wrench, fitting all Nuts and Couplings, furnished with each Pump.

“TRIUMPH” HORIZONTAL DOUBLE-ACTING FORCE PUMP.

With Brass Lined Cylinder and Adjustable Lever.



Fig. 601.

The general description of Fig. 600 on the preceding page applies also to Fig. 601, shown above. It is mounted on Plank, for use on shipboard, wharves and around mills, warehouses, etc.

It has lately been used quite extensively for testing boilers, and is a very efficient Pump for that purpose. We fit them always for both iron Pipe and Hose unless ordered specially for lead Pipe.

SIZES AND PRICES.

								IRON.	BRASS.
No. 3,	4 in. Bore,	4½ in. Stroke,	1½ in. Suction,	1¼ in. Discharge.....				\$28 00	\$60 00
“ 4,	5 “	5 “	2 “	1½ “				42 00	90 00

A Malleable Wrench, fitting all Nuts and Couplings, furnished with each Pump.

"TRIUMPH" HORIZONTAL DOUBLE-ACTING FORCE PUMP.

With Brass Lined Cylinder and Two Levers.

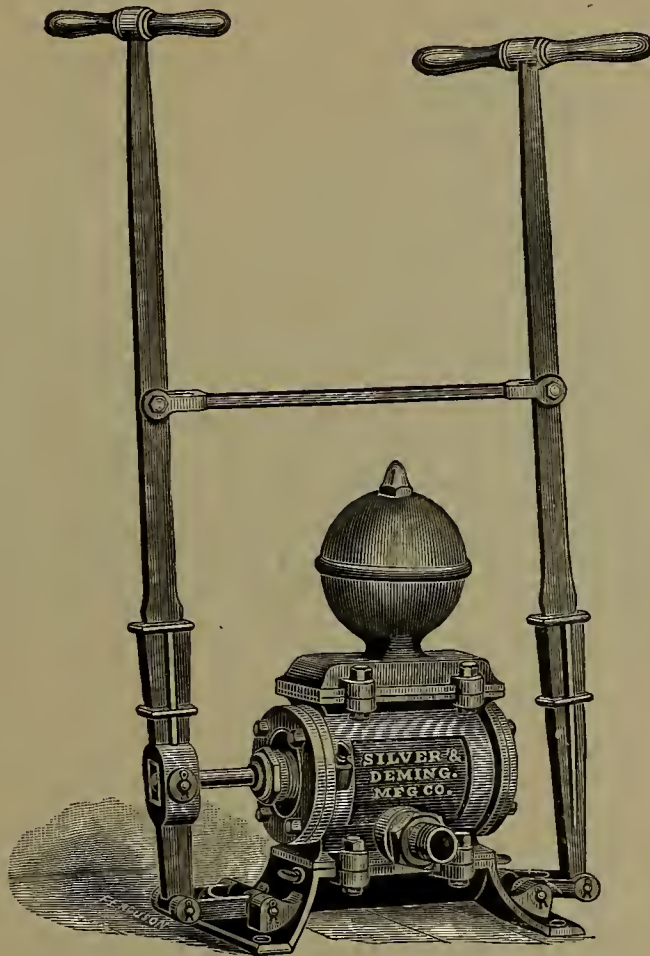


Fig. 602.

This cut represents our "Triumph" Double-Acting Force Pump, with two Levers. This Pump will be found very useful in factories, warehouses, on vessels, and other places where large quantities of water are to be moved. The Cylinder is brass lined; the Valves Valve Seats, Piston Rod, and other parts coming in contact with the water, are made of bronze. The Levers can be disconnected, so that it can be worked by one lever when desired. We fit them always for iron Pipe and Hose, unless ordered specially for lead Pipe.

SIZES AND PRICES.

					IRON.	BRASS.
No. 4,	5 in. Bore,	5 in. Stroke,	2 in. Suction,	1½ in. Discharge.....	\$45 00	\$ 95 00
" 5,	6 "	5 "	2½ "	2 "	..... 50 00	125 00

“TRIUMPH” HORIZONTAL DOUBLE-ACTING FORCE PUMP.

With Brass Lined Cylinder, Arranged for Power.

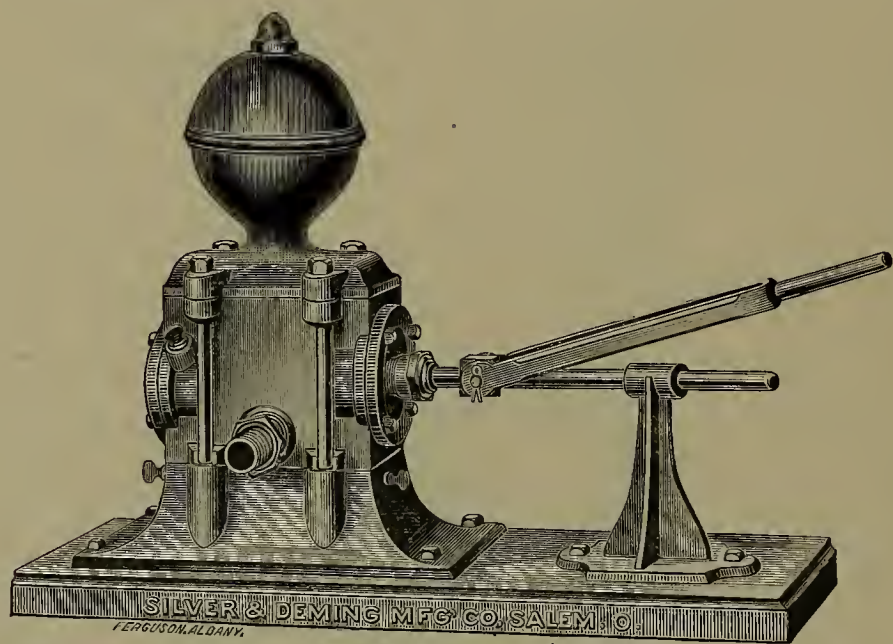


Fig. 603.

Fig. 603 represents our “Triumph” Double-Acting Force Pump, arranged for Power, mounted on Plank, with Pitman, Guide, and Guide Rod for attaching to Crank Pin or Face Plate.

This Pump is made with Brass Lined Cylinder. The Valves, Valve Seats, Piston Rod and other parts coming in contact with the water are made of Bronze.

This Pump will be found wonderfully efficient, and reliable where any Pump of like capacity can be used. For Rail Road Water Stations, about Breweries, Distilleries, etc., it is already much used and highly valued. Its ordinary speed should be about 50 strokes per minute, but can be increased to 80 if required. To compare capacity, refer to tables on page 186.

SIZES AND PRICES.

No. 1,	2½ inch Bore,	4½ inch Stroke,	1¼ inch Suction,	1 inch Discharge.....	IRON. \$30 00
“ 2, 3	“ “	4½ “ “	1¼ “ “	“ 1 “ “	..... 30 00.
“ 3, 4	“ “	4½ “ “	1½ “ “	“ 1¼ “ “	..... 32 00
“ 4, 5	“ “	5 “ “	2 “ “	“ 1½ “ “	..... 55 00

A Malleable Wrench, fitting all Nuts and Couplings, furnished with each Pump. Fitted for both iron Pipe and Hose unless otherwise ordered.

“TRIUMPH” HORIZONTAL DOUBLE-ACTING FORCE PUMP.

On Frame for Power.

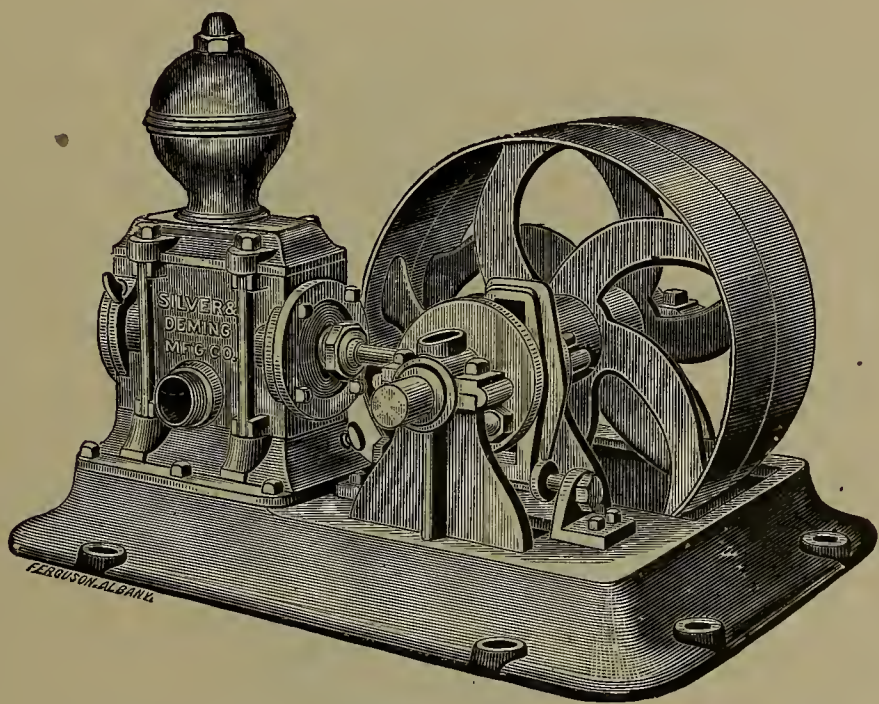


Fig. 604.

Fig. 604 represents our well-known “Triumph” Double-Acting Suction and Force Pump, arranged with tight and loose pulleys, 4 inches wide and 18 inches diameter. The Cylinder is lined with hard rolled brass, and the Valves, Valve-Seats and Rod are of bronze. The motion is transmitted by means of the well known and popular slotted Cross-Head, driven by a cast-steel crank pin, working in a bearing block of bronze or gun metal, the whole mechanism being securely bolted to a handsome and substantial bed plate, 25 by 32 inches. It is the most compact and useful Pump of its class, and we unhesitatingly recommend it as a complete and perfect Power Pump for water, oil, fermented or acetous liquors, for fire protection, or any other use where a steady, powerful and reliable stream is desired. This Pump may be run at from 75 to 90 revolutions per minute, when necessary, though 50 revolutions is about the right speed. We always fit this Pump for both iron Pipe and Hose, and can fit for lead Pipe when so ordered. We guarantee this Pump to work against a pressure of 100 pounds to the square inch.

SIZES AND PRICES.

	IRON.
No. 2, 3 in. Bore, $4\frac{1}{2}$ in. Stroke, $1\frac{1}{4}$ in. Suction, 1 in. Discharge.....	\$70 00
“ 3, 4 “ “ $4\frac{1}{2}$ “ “ $1\frac{1}{2}$ “ “ $1\frac{1}{4}$ “ “	75 00
Extra for Crank to work by hand	2 00

IMPROVED. HAND AND POWER PISTON PUMP.

With Air Chamber, Crank Shaft, Pulley and Handle.

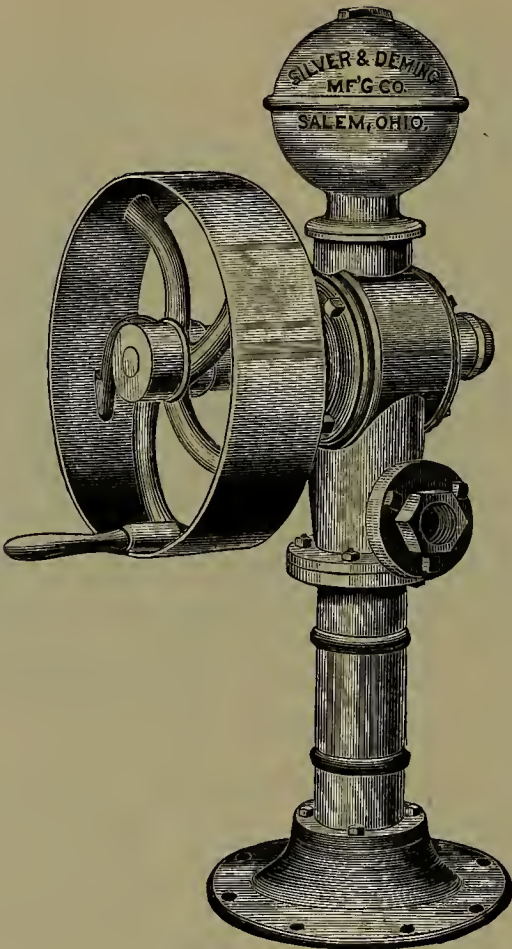


Fig. 585.

This Pump is suitable for raising water from shallow wells or cisterns, by hand or power, and forcing it to any point desired. It is most frequently used for filling boilers, tanks, etc.

It has a steel Crank Shaft, and is made throughout of the best material and in the most workmanlike manner. We consider it the best Pump of the kind yet introduced.

SIZES AND PRICES.

No. 4, 3 inch Cylinder, for 1¼ inch Pipe.....	\$25 00
“ 5, 3½ “ “ 1½ “ “	32 00

Fitted to connect to our Deep Well Cylinders, Figs. 304 and 305, when used in wells over 20 feet deep.

TWO CYLINDER FORCE PUMP.

With Wood Levers.

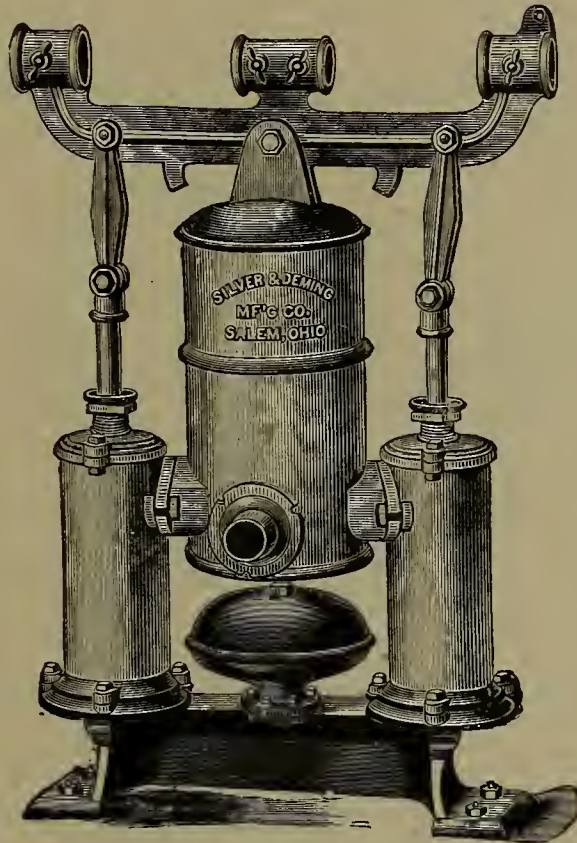


Fig. 615.

The above cut represents our Two Cylinder Force Pump. This Pump has been long and favorably known as one of the most efficient Fire Pumps ever offered the public, and it will be found especially effective about factories, railroad stations or any place where fire protection is required. This Pump has always ranked above all others as a Deck Pump, on our lake and river vessels.

SIZES AND PRICES.

SIZES AND PRICES.								IRON.	BRASS.	
No. 1,	2½ in.	Bore,	6 in.	Stroke,	2 in.	Suction,	1¼ in.	Discharge.....	\$35 00	\$50 00
" 2,	3½	"	6	"	2½	"	1½	"	45 00	65 00
" 3,	4	"	6	"	2½	"	1½	"	55 00	80 00
" 4,	4½	"	6	"	3	"	2	"	70 00	95 00
" 5,	6	"	8	"	4	"	3	"	100 00	155 00

The Suction is fitted for wrought iron Pipe, and the Discharge for Hose unless otherwise ordered.

These Pumps are rendered non-freezing by raising the Levers to their maximum height and tripping the Valves.

TWO CYLINDER FORCE PUMP.

With Folding Brakes.

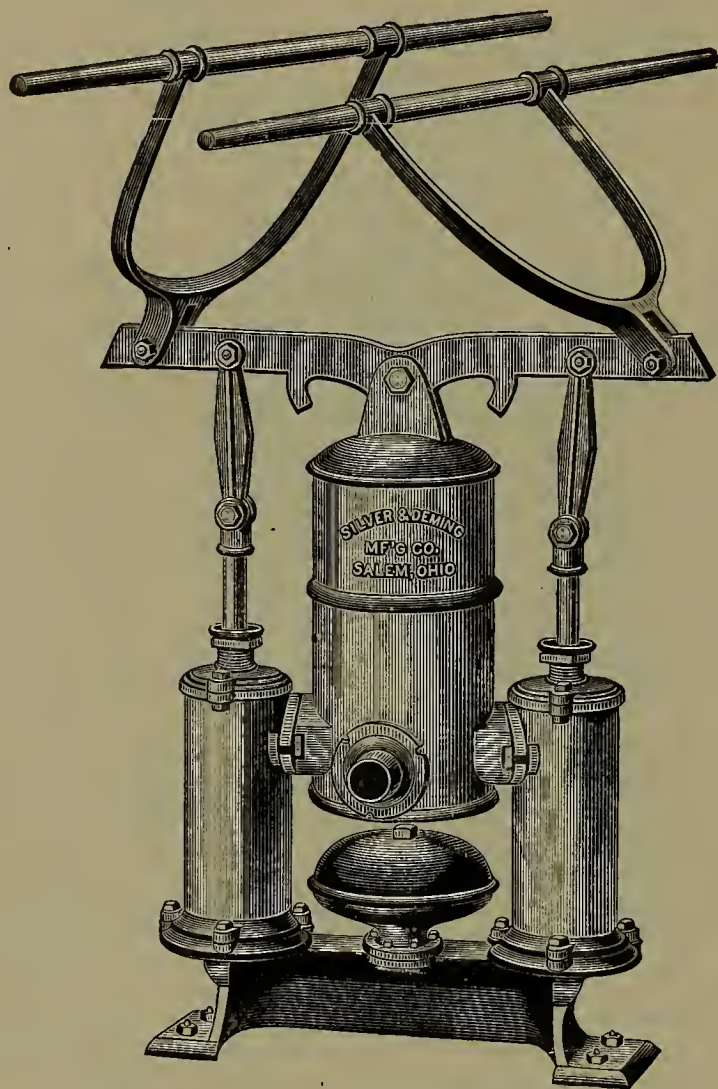


Fig. 616.

Fig. 616 is the same Pump, as Fig. 615, excepting that it is supplied with *Folding Brakes*.

SIZES AND PRICES.								IRON.	BRASS.	
No. 1,	2½ in.	Bore,	6 in.	Stroke,	2 in.	Suction	1¼ in.	Discharge.....	\$55 00	\$70 00
" 2,	3½	"	6	"	2½	"	1½	"	65 00	85 00
" 3,	4	"	6	"	2½	"	1½	"	75 00	100 00
" 4,	4½	"	6	"	3	"	2	"	90 00	115 00
" 5,	6	"	8	"	4	"	3	"	120 00	175 00

We furnish this Pump, mounted on Truck, at \$10.00 additional list, for each size.

LARGE HAND ROTARY FORCE PUMP.

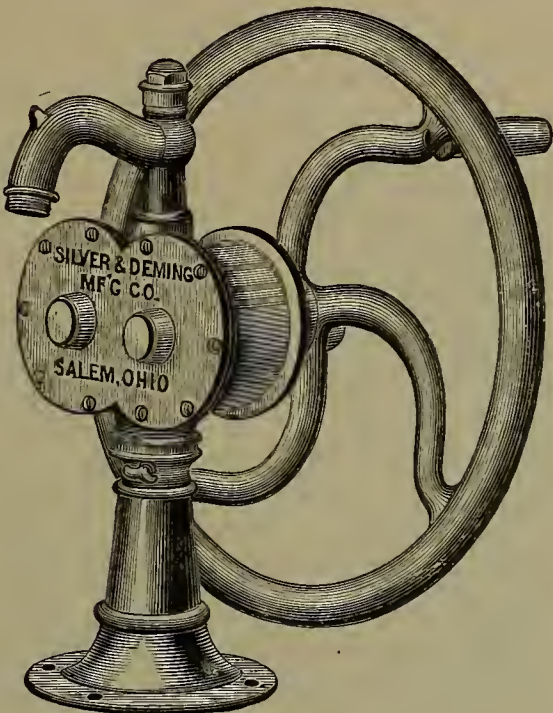


Fig. 575.

This cut shows *large* sizes of our Hand Rotary Force Pump. It is a positive Suction and Force Pump, metallic fitted, making it especially adapted for the requirements of Brewers, Distillers, Wine Producers, Gas Companies, etc. As an Oil Pump it has no equal; and for water, hot or cold, it can be used in place of ordinary Piston Pumps. For pumping acids, the working parts should be made of *Bronze* metal. For pumping hot liquor, we arrange them with Metallic Check Valves, without additional expense. We also list Fig. 574, which is similar to Fig. 575, but smaller.

SIZES AND PRICES.

Fig. 574.				IRON.	BRONZE.
No. 1,	1 1/4 inch Suction,	1 inch Discharge		\$19 00	\$41 00
" 2,	1 1/4 " "	1 " "		22 00	46 00
" 3,	1 1/2 " "	1 1/4 " "		26 00	51 00

Fig. 575.				IRON.	BRONZE.
No. 1,	1 1/4 inch Suction,	1 inch Discharge		\$20 00	\$42 00
" 2,	1 1/4 " "	1 " "		23 00	47 00
" 3,	1 1/2 " "	1 1/4 " "		27 00	52 00
" 4,	1 1/2 " "	1 1/2 " "		35 00	65 00
" 5,	2 " "	2 " "		40 00	75 00
" 6,	3 " "	2 1/2 " "		50 00	95 00

CAPACITY AT 100 REVOLUTIONS PER MINUTE.

No. 1 will discharge 13 gals. per minute.				No. 4 will discharge 27 gals. per minute.			
" 2	"	14	" "	" 5	"	36	" "
" 3	"	17	" "	" 6	"	55	" "

HAND ROTARY FORCE PUMP.

With Barrel Attachment and Goose-Neck Spout.



Fig. 576.

Fig. 576 represents our Hand Rotary Force Pump, arranged as a Barrel Pump, which combines all the desirable features of Pumps of this class.

To dealers in Oils and Liquors, this Pump is almost indispensable. With Connecting Pipe or Hose, the fluids can be transferred from the cellar into a tank situated in any part of the building. It is a positive direct acting Suction and Force Pump, not liable to get out of order, has large capacity, and requires but little power to operate it. A Barrel Attachment, a Goose-Neck Spout, and a Suction Pipe three feet long, accompany each Pump.

SIZES AND PRICES.

	IRON.	BRONZE.
No. 1, 1 inch Suction, 1 inch Discharge, for $\frac{3}{4}$ inch Hose.....	\$17 00	\$39 00
“ 2, 1 “ “ 1 “ “ “ 1 “ “	20 00	44 00
“ 3, $1\frac{1}{4}$ “ “ 1 “ “ “ 1 “ “	24 00	49 00

Above prices include Suction Pipe, Goose-Neck Spout, Barrel Attachment and Hook. Brass or Copper Suction Pipes furnished when ordered.

HAND ROTARY FORCE PUMP.

With Flat Base.

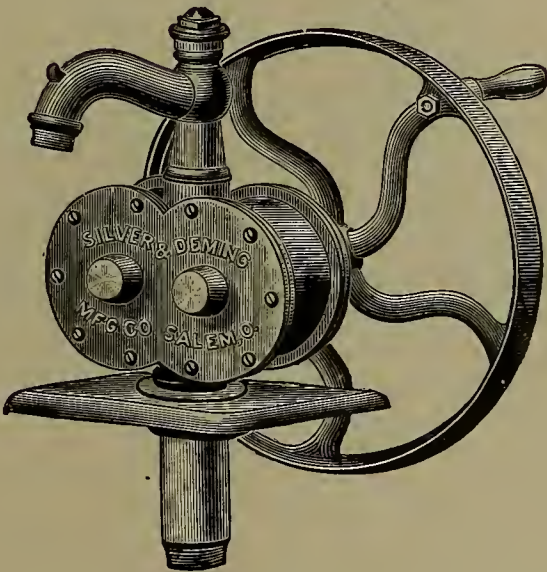


Fig. 578.

The above cut shows our justly celebrated Hand Rotary Force Pump, with Light Fly Wheel and Flat Base, arranged to bolt on a Bench or Table.

Suction and Discharge are always fitted for Hose, but can be fitted for iron or lead Pipe when so ordered.

SIZES AND PRICES.

	IRON.	BRONZE.
No. 1, 1¼ inch Suction, 1 inch Discharge.....	\$19 50	\$41 50
“ 2, 1¼ “ “ 1 “ “	22 50	46 50
“ 3, 1½ “ “ 1¼ “ “	26 75	51 75
“ 4, 1½ “ “ 1½ “ “	36 50	67 00
“ 5 2 “ “ 2 “ “	42 00	77 50

ROTARY FORCE PUMP, ON FRAME.

With Tight and Loose Pulleys for Power.

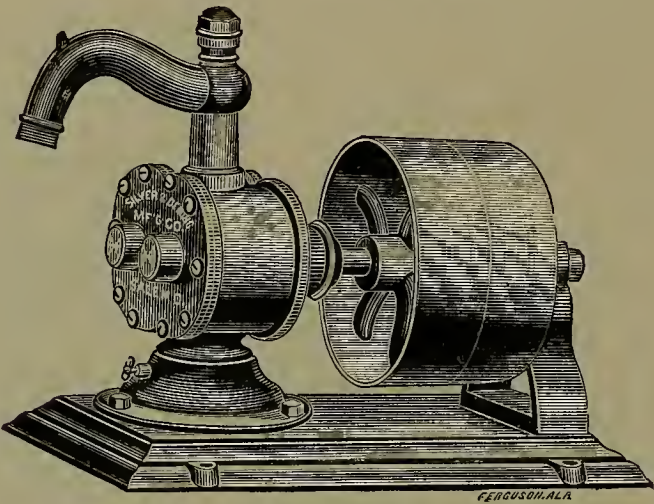


Fig. 577.

Fig. 577 represents a Power Rotary Pump, the internal construction of which is identical with our Fig. 575. It can be operated by hand, by attaching a handle to the end of the shaft. Balance wheels, with handles, furnished, when ordered, at additional cost named in list.

This Pump is extensively used in distilleries, breweries, wine cellars, meat packing establishments, oil refineries, etc., and is especially efficient as a fire pump, being capable of throwing water from 125 to 150 feet horizontally.

SIZES AND PRICES.						IRON.	BRONZE.
No. 1,	1 1/4	inch Suction,	1	inch Discharge.....		\$27 00	\$49 00
" 2,	1 1/4	"	1	"	"	32 00	56 00
" 3,	1 1/2	"	1 1/4	"	"	38 00	63 00
" 4,	1 1/2	"	1 1/2	"	"	48 00	78 00
" 5,	2	"	2	"	"	54 00	90 00
" 6,	3	"	2 1/2	"	"	65 00	110 00

Balance wheels, with handles, for above Pumps, from \$1.00 to \$3.00, according to size.

The above Pumps, with a speed of one hundred revolutions per minute, will discharge as follows :

No. 1, 13 gallons.	No. 3, 17 gallons	No. 5, 36 gallons.
" 2, 14 "	" 4, 27 "	" 6, 55 "

POWER ROTARY FORCE PUMP.

With Tight and Loose Pulleys.

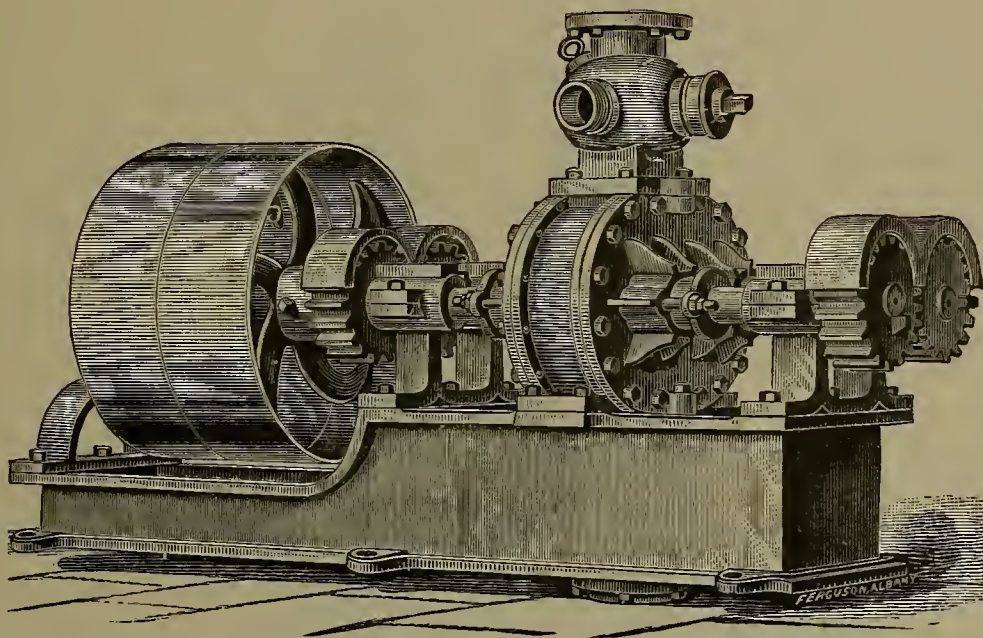


Fig. 580.

Fig. 580 exhibits our justly celebrated Power Rotary Force Pump, on Frame, with tight and loose Pulleys. It is complete in all sizes, requiring no extra couplings or bearings, and only requires to be securely bolted in position and attached to the driving power. It is exceedingly strong, durable and compact in construction, has cast steel Shaft, and bearings strong enough to resist any pressure, and is double-gearred. A large Vacuum-Chamber is cast in the frame into which the Suction Pipe is screwed. These valuable improvements render this Pump more easily placed in position, smoother in operation, and durable and efficient than any Rotary Pump in the market.

We make them of Bronze when so ordered. The bearings should be kept well oiled. After using, turn the Cams backward two or three times to empty the pump of water, then pour in a little good oil and turn the Cams forward a few times, to prevent rusting while not in use. Any of our Power Rotary Pumps may be used for fire service.

SIZES AND PRICES.

Number.	Capacity per Revolution.	Revolutions per minute	Diameter of Suction and Discharge	Size of Pulleys	Iron.	Bronze.
1.....	$\frac{1}{3}$ gal.	200	2 inch.	$14 \times 4\frac{1}{2}$ inch.	\$100 00	\$160 00
2.....	$\frac{6}{7}$ "	175	$2\frac{1}{2}$ "	$16 \times 5\frac{1}{2}$ "	115 00	180 00
3.....	$1\frac{1}{4}$ "	150	3 "	$18 \times 6\frac{1}{2}$ "	160 00	260 00
4.....	$1\frac{3}{4}$ "	125	4 "	$20 \times 8\frac{1}{2}$ "	240 00	.....
5.....	$2\frac{1}{6}$ "	100	5 "	.....	300 00	.....
6.....	$5\frac{1}{3}$ "	100	7 "	.....	525 00	.....
7.....	$7\frac{1}{3}$ "	90	10 "	.....	650 00	.....

Nos. 5, 6 and 7 are arranged to be driven by gearing.

POWER ROTARY FIRE PUMP.

With Air Chamber and Safety Valve.

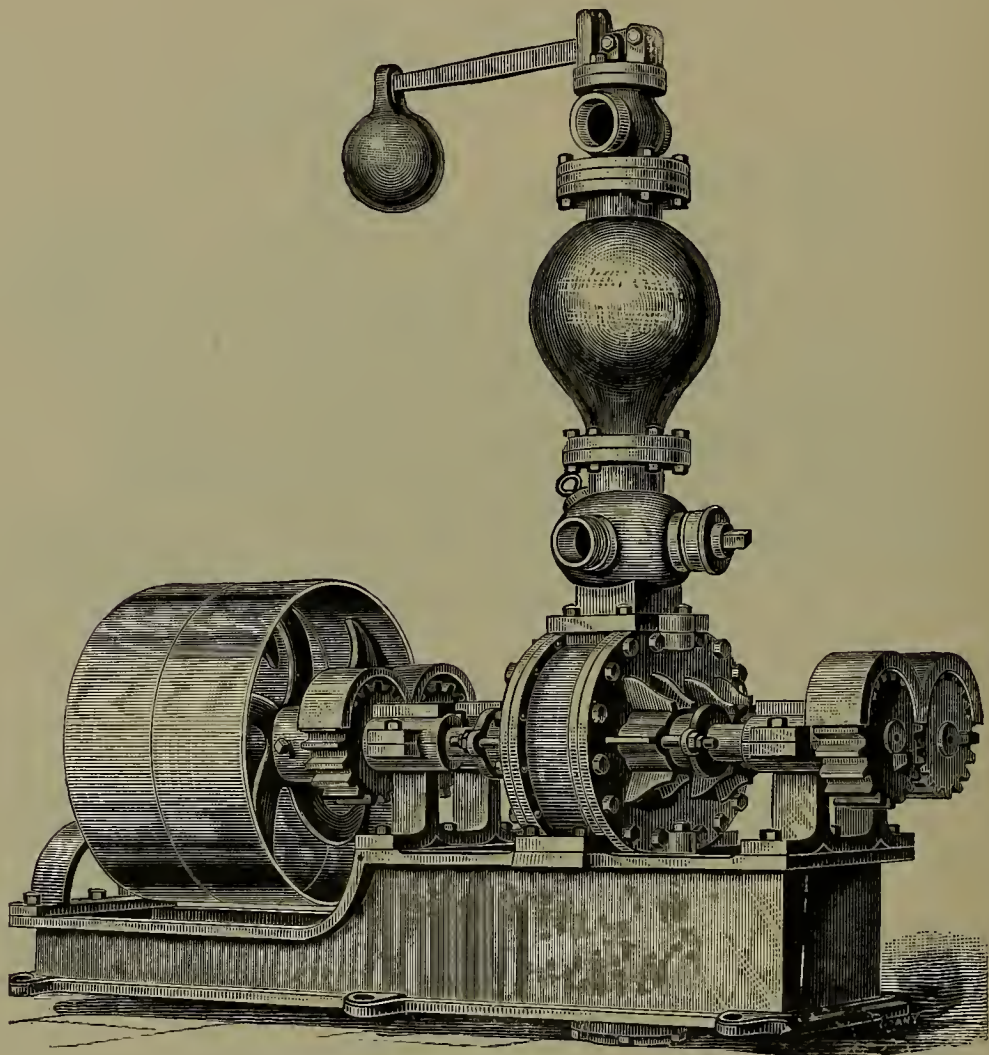


Fig. 582.

The above Pump is arranged for one, two or three lines of Hose. We can supply all necessary apparatus to convey water to any required distance or height. We advise the use of gearing instead of pulleys, wherever practicable. Prices include Safety Valve and outside shaft.

SIZES AND PRICES.

No.	Capacity per Revolution.	Revolutions per minute.	Size of Pulleys.	Diam. Suction Pipe.	Diam. Disch Hose.	No. of Streams.	Price.
1	$\frac{1}{3}$ Gal.	350	14 × 4 $\frac{1}{2}$	2 inch.	1 $\frac{1}{2}$ inch.	1	\$110 00
2	$\frac{6}{7}$ "	325	16 × 5 $\frac{1}{2}$	2 $\frac{1}{2}$ "	1 $\frac{1}{2}$ or 2	1	125 00
3	1 $\frac{1}{4}$ "	300	18 × 6 $\frac{1}{2}$	3 "	2 inch.	2	175 00
4	1 $\frac{3}{4}$ "	280	20 × 8 $\frac{1}{2}$	4 "	2 or 2 $\frac{1}{2}$	2	255 00
5	2 $\frac{1}{6}$ "	200	.....	5 "	2 $\frac{1}{2}$ inch.	3	315 00

No. 5 is always arranged to be driven by gearing.

IMPROVED BOILER FEED PUMP.

With Stub End for Power.

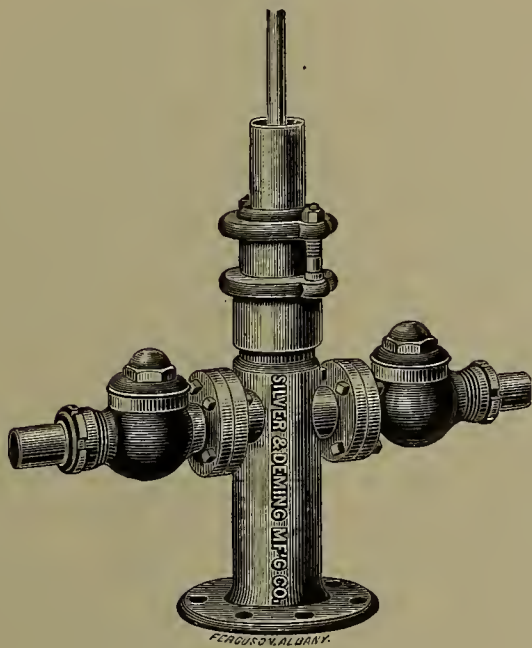


Fig. 588.

The above cut represents the ordinary style Stub End Boiler Feed Pump, with the improvement of attaching the Check Valves with Flanges and Bolts, instead of being cast to the body of the Pump, as is the case with most of the cheap and unserviceable Pumps made by other manufacturers.

The Check Valves are provided with Coupling Nuts and Brass Tubes for connecting Pipes with Pump.

SIZES AND PRICES.

No.	2, 1 $\frac{1}{4}$ in.	Piston,	6 in.	Stroke,	for $\frac{3}{4}$ in.	Pipe.....	\$10 00
"	3, 1 $\frac{1}{2}$	"	6	"	" 1	"	16 00
"	4, 1 $\frac{1}{2}$	"	3	"	" $\frac{3}{4}$	"	15 00
"	5, 2	"	3	"	" 1	"	18 00
"	6, 2 $\frac{1}{2}$	"	3	"	" 1	"	22 00
"	7, 3	"	3	"	" 1 $\frac{1}{4}$	"	27 00
"	8, 2	"	6	"	" 1 $\frac{1}{4}$	"	22 00
"	9, 2 $\frac{1}{2}$	"	6	"	" 1 $\frac{1}{4}$	"	30 00
"	10, 3	"	6	"	" 1 $\frac{1}{2}$	"	40 00

We can furnish Brass Check Valves at additional cost when so ordered.

STEAM BOILER FEED PUMP, FOR POWER,

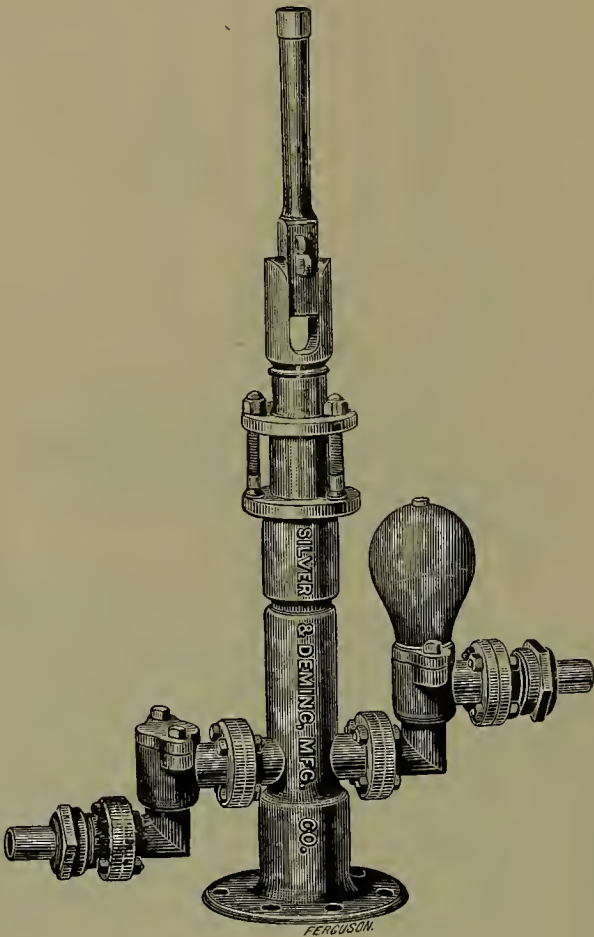


Fig. 589.

This cut represents a Steam Boiler Feed Pump with Stub End for attaching power. The Valves and Seats are made of Bronze, and are so arranged that they can be easily removed when repairs are necessary. All corresponding parts of these Pumps are made exact duplicates, and repairs will always fit. The Pump has an Air Chamber over the Discharge Valve, which will be found a valuable improvement

SIZES AND PRICES.

No. 1,	1½	inch	Piston,	12	inch	Stroke,	for	1	inch	Pipe	.....	\$35	00
“ 2,	2	“	“	12	“	“	“	1¼	“	“	.....	40	00
“ 3,	2½	“	“	12	“	“	“	1¼	“	“	.....	50	00
“ 4,	3	“	“	12	“	“	“	1¼	“	“	.....	60	00

STEAM BOILER FEED PUMP, ON BED PLATE.

With Column and Two Pulleys.

FOR HAND OR POWER.

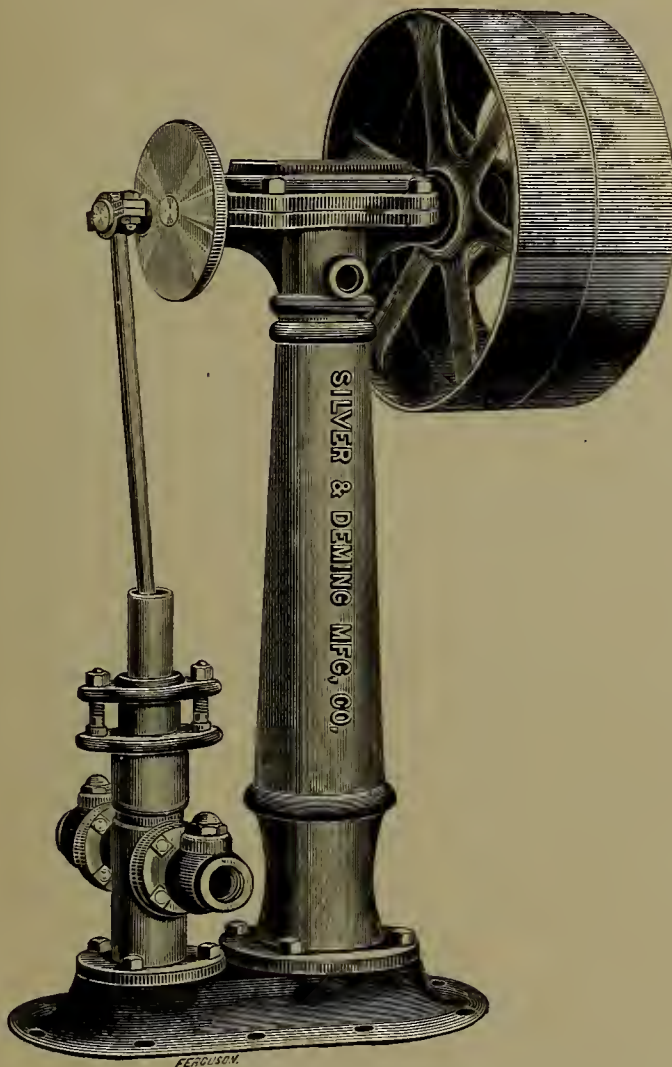


Fig. 591.

This cut shows our Steam Boiler Feed Pump on Bed Plate, with tight and loose pulleys and crank.

This Pump is built in the most thorough and workmanlike manner, and all corresponding parts are made exact duplicates. It is provided with a handle, so that it can be used to fill the boiler by hand before the steam is up. The pulleys are faced off and vary in diameter according to the size of the Pump. The Check Valves are bolted to the Pump, and may be removed and replaced when worn, or new ones supplied, thus making them preferable to Pumps of other manufacturers, which are made with the Check Valve cast on. When so ordered we furnish these Pumps with all Brass Check Valves at a small additional cost. Each pulley is provided with a set screw for fastening it to the Crank Shaft.

SIZES AND PRICES.

No. 1, 2 inch caliber, 3 inch Stroke, 1 inch Suction and Discharge, 16 inch diameter Pulley, 4 inch face.....	\$34 00
No. 2, 2½ inch caliber, 3 inch Stroke, 1 inch Suction and Discharge, 16 inch diameter Pulley, 4 inch face.....	40 00
No. 3, 3 inch caliber, 3 inch Stroke, 1¼ inch Suction and Discharge, 16 inch diameter Pulley, 4 inch face.....	50 00
No. 4, 2 inch caliber, 6 inch Stroke, 1¼ inch Suction and Discharge, 18 inch diameter Pulley, 4 inch face.....	65 00
No. 5, 2½ inch caliber, 6 inch Stroke, 1¼ inch Suction and Discharge, 18 inch diameter Pulley, 4 inch face.....	75 00
No. 6, 3 inch caliber, 6 inch Stroke, 1½ inch Suction and Discharge, 18 inch diameter Pulley, 4 inch face.....	85 00

STEAM BOILER FEED PUMP, ON BED PLATE.

With Column and Two Pulleys. For Hand or Power.

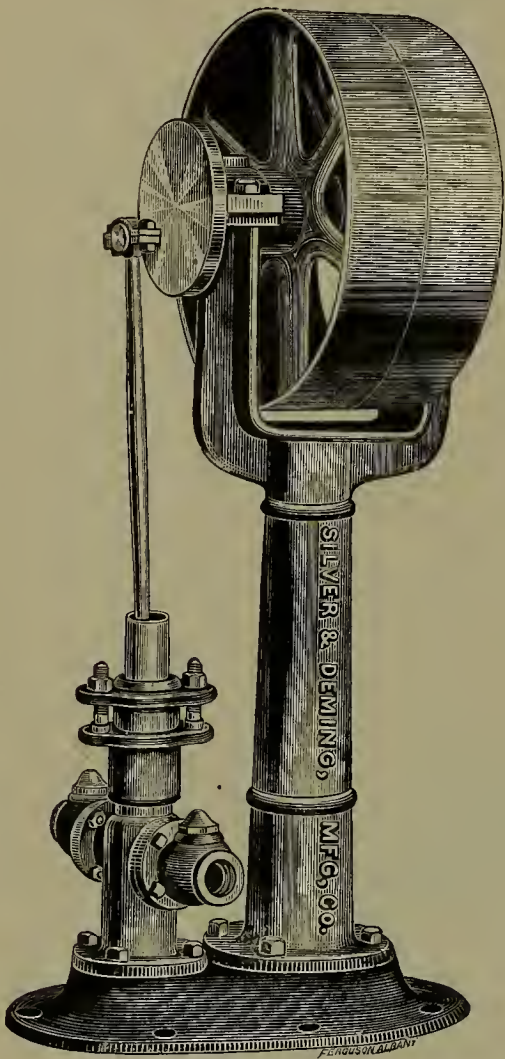


Fig. 592.

This cut represents an improved Boiler Feed Pump on Column, with tight and loose pulleys for power. There is a strong wrought iron handle on the end of the Crank Shaft opposite the Face Plate, so that the boiler can be filled by hand when necessary. The Crank Shaft has a bearing on each side of the pulleys. Instead of being cast on, the Check Valves are *bolted* to the Pump, and may be readily removed when they become worn. The Plungers and Valves are Brass, and the Valve Cases are Iron, but when so ordered we furnish these Pumps with all Brass Check Valves at a small additional cost. Each pulley is provided with a set screw for fastening it to the Crank Shaft.

SIZES AND PRICES.

No. 1, 2 inch caliber, 3 inch Stroke, 1 inch Suction and Discharge, 16 inch diameter Pulley, 4 inch face.....	\$34 00
" 2, 2½ inch caliber, 3 inch Stroke, 1 inch Suction and Discharge, 16 inch diameter Pulley, 4 inch face.....	40 00
" 3, 3 inch caliber, 3 inch Stroke, 1¼ inch Suction and Discharge, 16 inch diameter Pulley, 4 inch face.....	50 00
" 4, 2 inch caliber, 6 inch Stroke, 1¼ inch Suction and Discharge, 18 inch diameter Pulley, 4 inch face.....	65 00
" 5, 2½ inch caliber, 6 inch Stroke, 1½ inch Suction and Discharge, 18 inch diameter Pulley, 4 inch face.....	75 00
" 6, 3 inch caliber, 6 inch Stroke, 1½ inch Suction and Discharge, 18 inch diameter Pulley, 4 inch face.....	85 00

DESCRIPTION OF IMPROVED HYDRAULIC RAM.

On the following page will be found a cut of our Improved Hydraulic Ram. The simplicity and effective operation of this Machine, and its great durability, make it the most valuable and useful apparatus yet developed in the department of Hydraulics for elevating water and conveying it to any point desired.

The purposes for which this Machine can be used to advantage are many, viz: for supplying dwellings, stables, factories, railroad stations, stock yards, etc., with running water, and for irrigating lands. When once set and in operation it requires no further attention, and will last for years without trouble or expense.

The efficiency of the Ram, however, depends on the amount of fall to be obtained. It may be used when the spring or brook is only 18 inches higher than the Ram; yet as the height increases, the more powerfully the Ram operates and its ability to force water to a greater elevation and distance is correspondingly increased. The relative height of the source of supply above the Ram, and the elevation to which it is required to raise the water, determine the relative proportion between the water raised and wasted; the quantity raised varying according to the height it is conveyed, with a given fall as explained below.

Rams are frequently successfully employed for driving water a distance of from 1500 to 3000 feet, and to a height of from 100 to 200 feet above the Ram; and they have even been known to perform still greater service. When the water has to be forced long distances, the conveying pipe should be somewhat larger than for short distances, to compensate for the friction and inertia of the water in the pipe.

A fall of 10 feet from the Reservoir to the Ram is sufficient to raise water to any point less than 150 feet above the level of the machine. The same amount of fall would also raise water to a point much higher, though the amount of water supplied would be correspondingly diminished as the height and distance increase.

For ordinary purposes it may be safely calculated that about one-seventh of the water can be raised and discharged at an elevation five times as high as the fall, or one-fourteenth part may be raised and discharged about ten times as high as the fall; and so on in like proportion as the fall or height is increased or diminished.

Turns or angles in either drive or discharge pipe, should be avoided if possible. When they become necessary in setting the Ram, make the elbows as large as possible and substitute curves for angles wherever practicable.

We make these Rams of Iron and Bronze. The Valve Stem and Case are always made of the latter material, which is more durable than any other metal.

The Ram should be placed in a pit, and the Drive and Discharge Pipes should be run underground in order to protect them from injury by frost and other causes.

Table of sizes, prices, capacity, etc., will be found on the following page.

IMPROVED HYDRAULIC RAM.

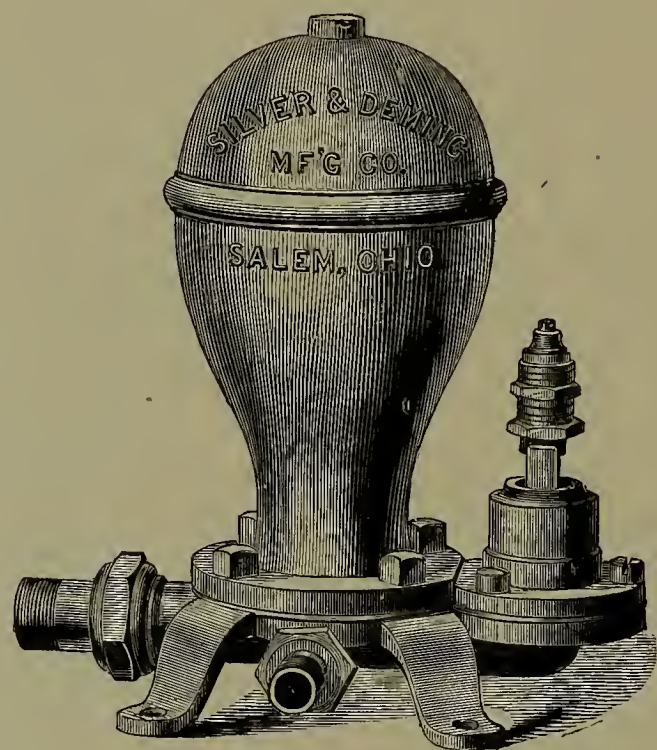


Fig. 690.

SIZES AND PRICES.

Size.	Quantity of Water furnished by the fountain to which the Ram is adapted.	Length of Drive Pipe.	Caliber of Pipe.		Price.
			Drive.	Discharge.	
No. 2	$\frac{1}{2}$ to 2 gallons per minute.	25 to 50 feet.	$\frac{3}{4}$ inch.	$\frac{1}{2}$ inch.	\$ 9 00
" 3	$1\frac{1}{2}$ " 4 " "	25 " 50 "	1 " "	$\frac{1}{2}$ " "	11 00
" 4	3 " 7 " "	25 " 50 "	$1\frac{1}{2}$ " "	$\frac{1}{2}$ " "	14 00
" 5	6 " 14 " "	25 " 50 "	2 " "	1 " "	22 00
" 6	12 " 25 " "	25 " 50 "	$2\frac{1}{2}$ " "	$1\frac{1}{4}$ " "	40 00
" 7	20 " 60 " "	25 " 50 "	4 " "	2 " "	75 00
" 8	20 " 125 " "	25 " 50 "	6 " "	$2\frac{1}{2}$ " "	125 00

To obtain the greatest force from the supply, the Drive Pipe should descend from the Fountain to the Ram on an angle of 45 degrees. When the Fountain is more than 12 feet above the Ram, and the Drive Pipe descends on an angle of more than 45 degrees, there should be one or more coils made in the Drive Pipe, in order to reduce the velocity of the water, and prevent injury to the Ram.

IMPROVED HAM PUMP.



Fig. 694.

The above is a cut of our Improved Ham Pump, which will be found the most perfect Pump of the kind in the market. It is neat, compact, strong and powerful in operation. The working parts are made of Brass, and the Injecting Needle or point is nickel plated.

With this Pump the pickle is forced into every part of the ham at once. Hams can be cured in this way in from three to four weeks, summer or winter.

No butcher can afford to be without one of these Pumps, as they will save many times their cost during a season.

PRICE.

Ham Pump, complete.....	\$15 00
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PORTABLE GREENHOUSE PUMP.

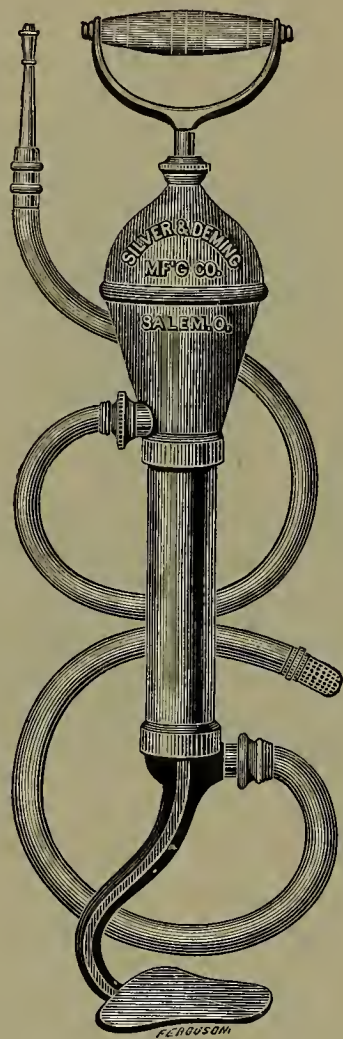


Fig. 660.

This cut represents a Portable Hand Force Pump, which is held in great favor and very generally used about the private residences, warehouses and public buildings of this and almost every other country. It is especially adapted for use in greenhouses, about stables for washing carriages, and is of more than ordinary value in cases of incipient fires. It is light and easily handled, weighing only eight pounds, and the low price places it within the reach of all who may require such a pump.

Fig. 660, with 2½ feet Suction and 3 feet Leading Hose, Brass Discharge Pipe and Sprinkler.....	\$9 00
Extra for Conical Tip to use in forcing out pipe.....	1 00

“SYPHON” PUMP.

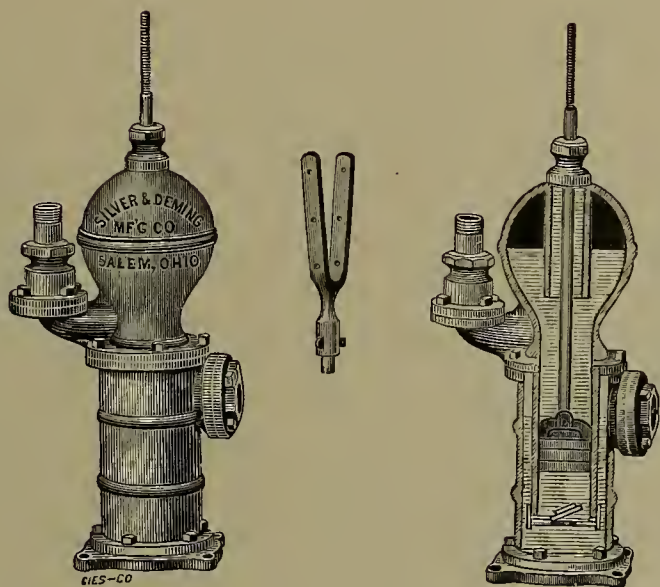


Fig. 320.

The above cut represents our Improved Syphon Pump, for use with Wind-Mills or other suitable power. The Suction Pipe enters the Outer Cylinder several inches above the Lower Valve. By this means the Valves are always immersed, and the pump is always primed. It has *Brass* Plunger, and the working Cylinder is either *all Brass* or *Brass lined*, as ordered. Length of stroke, 7 inches.

In the past few years, this Pump has grown into constant favor on its merits, and we do not hesitate to recommend it for any place where it can be used, guaranteeing perfect satisfaction.

The following prices are for *Brass lined* Cylinders.

SIZES AND PRICES.

No. 1, 2½ inch Cylinder, 1½ inch Suction, 1¼ inch Discharge.....	\$25 00
“ 2, 3 “ “ 1½ “ “ 1½ “ “	25 25
“ 3, 3½ “ “ 2 “ “ 2 “ “	27 25
“ 4, 4 “ “ 2 “ “ 2 “ “	30 50

Add \$3.00 extra to list for forked Rod to attach to Wind-Mill. Larger sizes made to order. *All Brass* Cylinders \$3.00 extra list.

PUMP CYLINDERS OR WORKING SECTIONS.

GAS SET CYLINDERS. "A" PLUNGER.

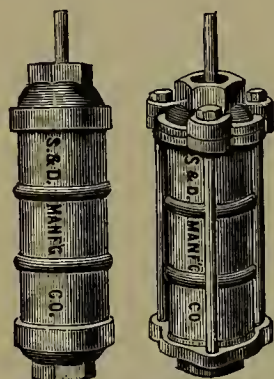


Fig. 300. Fig. 301.

SIZE.	FITTED FOR*	IRON.	BRASS BODY, IRON PLUNGER AND CAPS.	BRASS BODY, BRASS PLUNGER, IRON CAPS.	ALL BRASS.
2 x10	1 inch Pipe	\$3 75	\$ 7 25	\$ 8 00	\$ 8 75
2 $\frac{1}{4}$ x10	1 " "	4 00	7 50	8 25	9 00
2 $\frac{1}{2}$ x10	1 $\frac{1}{4}$ " "	4 35	8 00	8 75	9 50
2 $\frac{3}{4}$ x10	1 $\frac{1}{4}$ " "	4 70	8 75	9 75	10 50
3 x10	1 $\frac{1}{4}$ " "	5 00	9 50	10 50	11 50
3 $\frac{1}{4}$ x10	1 $\frac{1}{4}$ " "	5 30	10 50	11 50	12 50
3 $\frac{1}{2}$ x10	1 $\frac{1}{2}$ " "	5 60	11 50	12 50	14 50
3 $\frac{3}{4}$ x10	1 $\frac{1}{2}$ " "	5 90	13 00	14 00	15 50
4 x10	2 " "	6 50	14 00	15 00	17 00

*Fitted for other sizes of Pipe when so ordered.

The Brass Body and all Brass Cylinders are made of *Cast Brass*.

SHALLOW WELL CYLINDERS. "B" PLUNGER.

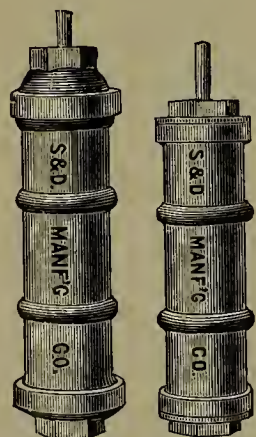


Fig. 302. Fig. 303.

SIZE.	FITTED FOR*	IRON.	BRASS BODY, IRON PLUNGER AND CAPS.	BRASS BODY, BRASS PLUNGER, IRON CAPS.	ALL BRASS.
2 x12	1 inch Pipe	\$ 5 50	\$10 00	\$11 00	\$12 50
2 $\frac{1}{4}$ x12	1 $\frac{1}{4}$ " "	5 75	10 50	11 50	13 00
2 $\frac{1}{2}$ x12	1 $\frac{1}{4}$ " "	6 00	11 50	12 50	14 00
2 $\frac{3}{4}$ x12	1 $\frac{1}{4}$ " "	6 50	11 75	13 25	15 00
3 x12	1 $\frac{1}{4}$ " "	7 00	12 75	14 25	16 25
3 $\frac{1}{4}$ x12	1 $\frac{1}{4}$ " "	7 50	14 00	15 00	17 50
3 $\frac{1}{2}$ x12	1 $\frac{1}{2}$ " "	8 00	15 50	17 50	20 00
3 $\frac{3}{4}$ x12	1 $\frac{1}{2}$ " "	8 50	18 00	20 50	23 50
4 x12	2 " "	9 25	21 50	24 00	27 00
2 x14	1 " "	6 00	10 25	11 50	13 00
2 $\frac{1}{4}$ x14	1 $\frac{1}{4}$ " "	6 25	11 25	12 50	14 00
2 $\frac{1}{2}$ x14	1 $\frac{1}{4}$ " "	6 50	11 75	13 00	14 50
2 $\frac{3}{4}$ x14	1 $\frac{1}{4}$ " "	7 00	12 50	14 00	15 75
3 x14	1 $\frac{1}{4}$ " "	7 50	13 50	15 00	16 75
3 $\frac{1}{4}$ x14	1 $\frac{1}{4}$ " "	8 00	15 00	16 75	18 25
3 $\frac{1}{2}$ x14	1 $\frac{1}{2}$ " "	8 50	16 50	19 00	21 50
3 $\frac{3}{4}$ x14	1 $\frac{1}{2}$ " "	9 00	20 25	22 75	25 00
4 x14	2 " "	10 00	23 75	27 00	29 50
4 $\frac{1}{2}$ x14	2 " "	12 50	26 00	31 00	34 00
5 x14	2 $\frac{1}{2}$ " "	14 25	29 00	35 00	39 00

*Fitted for other sizes of Pipe when so ordered.

The Brass Body and all Brass Cylinders are made of *Cast Brass*.

DEEP WELL CYLINDERS. "C" PLUNGER.

Fig. 304. Fig. 305.

SIZE.	FITTED FOR*	IRON.	BRASS BODY, IRON PLUNGER AND CAPS.	BRASS BODY, BRASS PLUNGER, IRON CAPS.	ALL BRASS.
1½x16	1 inch Pipe	\$ 6 00	\$10 50	\$12 00	\$13 50
1¾x16	1 " "	6 00	10 50	12 00	13 50
2 x16	1 " "	6 00	10 50	12 00	13 50
2¼x16	1¼ " "	6 50	12 00	13 50	15 00
2½x16	1½ " "	7 00	12 50	14 00	15 00
2¾x16	1¾ " "	7 50	13 00	14 50	16 25
3 x16	1¾ " "	8 00	14 00	15 50	17 50
3¼x16	1¾ " "	8 50	16 00	18 00	20 00
3½x16	1½ " "	9 00	18 50	21 00	23 40
3¾x16	1½ " "	9 50	22 50	25 00	27 50
4 x16	2 " "	10 50	26 00	29 00	32 50
4½x16	2 " "	13 00	30 00	35 00	40 00
5 x16	2½ " "	15 50	35 00	41 00	48 00
6 x16	3 " "	22 00	41 00	49 00	60 00

*Fitted for other sizes of Pipe when so ordered.

The Brass Body and all Brass Cylinders in the above list are made of *Cast Brass*.

SEAMLESS BRASS TUBE CYLINDERS. "E" PLUNGER.

	3 x12 inch, fitted for 1¼ inch Pipe.....	\$ 9 50
	3½x12 " " 1½ "	11 00
	4 x12 " " 1½ or 2 "	12 00
	5 x14 " " 2½ "	20 50
	6 x14 " " 2½ or 3 "	24 00
Above Cylinders fitted with Inside Attachments at same list prices when so ordered.		
Above Cylinders have <i>Iron Plungers</i> .		
Fig. 33.		



SPECIAL SEAMLESS BRASS TUBE WIND-MILL CYLINDERS.

Fig. 312.—10 in. or 10¼ in. long. "F" Plunger.

SIZE.	FITTED FOR	IRON ATTACHMENTS.	ALL BRASS.
2 inch	1 inch Pipe	\$ 7 50	\$ 8 25
2¼ "	1¼ " "	7 75	8 50
2½ "	1¼ " "	8 00	8 75
2¾ "	1¼ " "	8 50	9 25
3 "	1¼ " "	9 00	10 00
3¼ "	1¼ " "	9 75	10 75
3½ "	1½ " "	10 50	12 00
3¾ "	1½ " "	11 75	13 25
4 "	2 " "	14 00	16 00

Fig. 312.

* Fig. 312.—12 in. long. "F" Plunger.

SIZE.	FITTED FOR	IRON ATTACHMENTS.	ALL BRASS.
2 inch	1 inch Pipe	\$ 8 00	\$ 9 00
2¼ "	1¼ " "	8 25	9 25
2½ "	1¼ " "	8 50	9 50
2¾ "	1¼ " "	9 00	10 00
3 "	1¼ " "	9 50	11 00
3¼ "	1¼ " "	10 25	11 75
3½ "	1½ " "	11 25	13 50
3¾ "	1½ " "	12 75	15 75
4 "	2 " "	15 00	18 50

* Fig. 312—14 in. long. "B" Plunger.

SIZE.	FITTED FOR	IRON ATTACHMENTS & FOLLOWER, BRASS CAGE AND VALVE.	IRON ATTACHMENTS & ALL BRASS PLUNGER.	ALL BRASS.
2 inch.....	1 inch Pipe	\$ 8 50	\$ 9 75	\$ 11 25
2¼ "	1¼ " "	9 00	10 25	11 75
2½ "	1¼ " "	9 25	10 50	12 00
2¾ "	1¼ " "	9 75	11 25	13 00
3 "	1¼ " "	10 25	11 75	13 50
3¼ "	1¼ " "	11 00	12 75	14 50
3½ "	1½ " "	12 25	14 75	16 25
3¾ "	1½ " "	13 75	16 25	18 50
4 "	2 " "	15 75	19 00	21 50
4½ "	2 " "	18 00	23 00	26 00
5 "	2½ " "	20 50	26 50	30 50
6 "	3 " "	24 00	34 00	40 00

* Fig. 312.—16 in. long. "C" Plunger.

SIZE.	FITTED FOR.	IRON ATTACHMENTS & FOLLOWER, BRASS CAGE AND VALVE.	IRON ATTACHMENTS & ALL BRASS PLUNGER.	ALL BRASS.
1¾ inch.....	1 inch Pipe	\$ 9 00	\$10 50	\$12 00
2 "	1 " "	9 00	10 50	12 00
2¼ "	1¼ " "	9 75	11 25	12 75
2½ "	1¼ " "	10 25	11 75	13 25
2¾ "	1¼ " "	10 75	12 25	13 75
3 "	1¼ " "	11 25	12 75	14 75
3¼ "	1¼ " "	12 00	14 00	16 00
3½ "	1½ " "	13 50	16 00	18 50
3¾ "	1½ " "	15 00	17 50	20 00
4 "	2 " "	17 55	20 50	24 00
4½ "	2 " "	21 00	26 50	30 50
5 "	2½ " "	24 00	31 00	36 00
6 "	3 " "	30 00	42 00	49 00

* Fitted with *Inside* Attachments at same list prices when so ordered.

BRASS LINED IRON CYLINDERS.
GAS SET CYLINDERS. (Fig. 308.) **"A" PLUNGER.**



Fig. 308.

SIZE.	FITTED FOR	IRON PLUNGER.	BRASS PLUNGER.
2 x 10.....	1 inch Pipe.	\$ 6 75	\$ 7 50
2 $\frac{1}{4}$ x 10.....	1 $\frac{1}{4}$ " "	7 25	8 00
2 $\frac{1}{2}$ x 10.....	1 $\frac{1}{4}$ " "	7 75	8 25
2 $\frac{3}{4}$ x 10.....	1 $\frac{1}{4}$ " "	8 25	8 75
3 x 10.....	1 $\frac{1}{4}$ " "	8 75	9 25
3 $\frac{1}{4}$ x 10.....	1 $\frac{1}{4}$ " "	9 25	10 00
3 $\frac{1}{2}$ x 10.....	1 $\frac{1}{2}$ " "	9 75	10 75
4 x 10.....	2 " "	10 50	12 00

SHALLOW WELL CYLINDERS. (Fig. 309.) **"B" PLUNGER.**



Fig. 309.

SIZE.	FITTED FOR	IRON FOLLOWER. BRASS CAGE AND VALVE.	ALL BRASS PLUNGER.
2 x 12.....	1 inch Pipe.	\$ 7 50	\$ 8 50
2 $\frac{1}{4}$ x 12.....	1 $\frac{1}{4}$ " "	8 00	9 00
2 $\frac{1}{2}$ x 12.....	1 $\frac{1}{4}$ " "	8 50	9 50
2 $\frac{3}{4}$ x 12.....	1 $\frac{1}{4}$ " "	9 00	10 00
3 x 12.....	1 $\frac{1}{4}$ " "	9 50	10 50
3 $\frac{1}{4}$ x 12.....	1 $\frac{1}{4}$ " "	10 00	11 25
3 $\frac{1}{2}$ x 12.....	1 $\frac{1}{2}$ " "	10 50	12 00
4 x 12.....	2 " "	12 50	15 00
2 x 14.....	1 " "	8 25	9 25
2 $\frac{1}{4}$ x 14.....	1 $\frac{1}{4}$ " "	8 75	9 75
2 $\frac{1}{2}$ x 14.....	1 $\frac{1}{4}$ " "	9 25	10 50
2 $\frac{3}{4}$ x 14.....	1 $\frac{1}{4}$ " "	9 75	11 00
3 x 14.....	1 $\frac{1}{4}$ " "	10 25	11 50
3 $\frac{1}{4}$ x 14.....	1 $\frac{1}{4}$ " "	10 75	12 50
3 $\frac{1}{2}$ x 14.....	1 $\frac{1}{2}$ " "	11 25	13 25
4 x 14.....	2 " "	14 00	17 00

DEEP WELL CYLINDERS. (Fig. 310.) **"C" PLUNGER.**

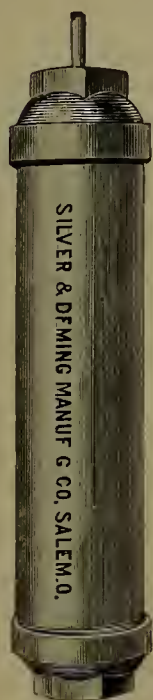


Fig. 310.

SIZE.	FITTED FOR	IRON FOLLOWER. BRASS CAGE AND VALVE	ALL BRASS PLUNGER.
2 x 16.....	1 inch Pipe.	\$ 9 00	\$10 00
2 $\frac{1}{4}$ x 16.....	1 $\frac{1}{4}$ " "	9 50	10 75
2 $\frac{1}{2}$ x 16.....	1 $\frac{1}{4}$ " "	10 00	11 50
2 $\frac{3}{4}$ x 16.....	1 $\frac{1}{4}$ " "	10 50	12 00
3 x 16.....	1 $\frac{1}{4}$ " "	11 00	12 75
3 $\frac{1}{4}$ x 16.....	1 $\frac{1}{4}$ " "	11 50	13 75
3 $\frac{1}{2}$ x 16.....	1 $\frac{1}{2}$ " "	12 00	14 50
4 x 16.....	2 " "	15 75	19 00

WOOD PUMP CYLINDER.

(Fig. 318.)

"Q" PLUNGER.

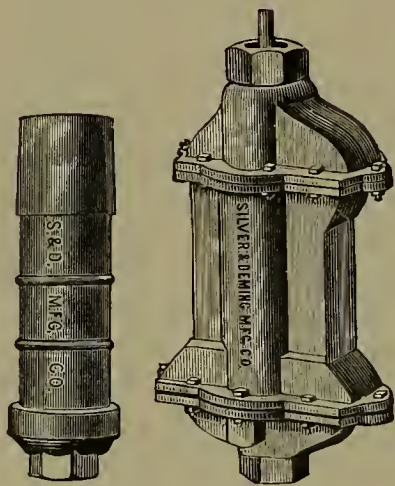


Fig. 318.

Fig. 319.

SIZE.	FITTED FOR	PRICE.
3 x 12 inches.....	1 1/4 inch Pipe.	\$3 00
3 1/4 x 12 "	1 1/4 " "	3 25
3 1/2 x 12 "	1 1/4 or 1 1/2 "	4 00
4 x 12 "	1 1/2 or 2 "	4 50

Add 50 cents to above list for Cylinders with Spring Valves. The above Cylinders are fitted with *Iron* or *Brass* Valve Seats, as ordered.

DOUBLE ACTING CYLINDER.

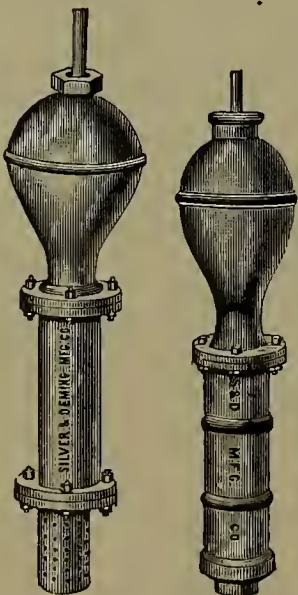
(Fig. 319.)

SIZE.	FITTED FOR	PRICE
2 1/4 inches.....	1 1/4 inch Pipe.	\$10 00
3 "	1 1/4 or 1 1/2 "	12 00
4 "	1 1/2 or 2 "	14 00

DEEP WELL CYLINDERS, WITH AIR CHAMBER.

(Fig. 316.)

"C" PLUNGER.



Fig, 316.

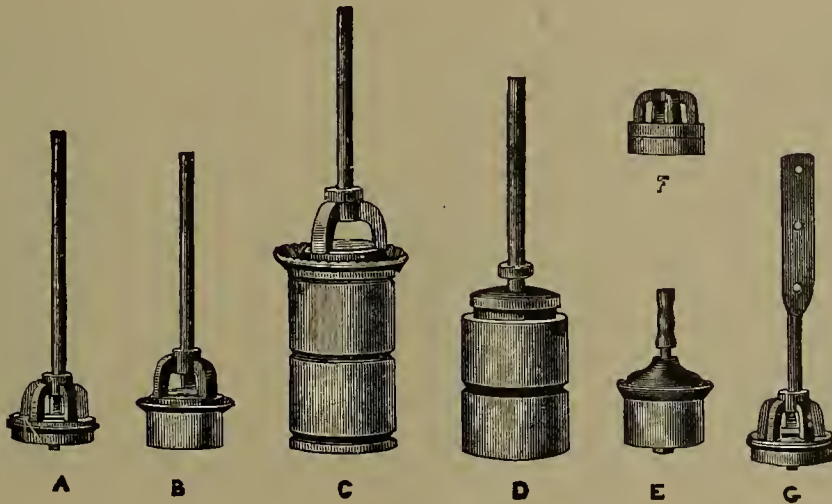
Fig 317.

SIZE.	FITTED FOR	PRICE.
2 3/4 x 16 inches.....	1 1/4 inch Pipe.	\$10 00
3 x 16 "	1 1/4 " "	10 50
3 1/4 x 16 "	1 1/4 " "	11 00
3 1/2 x 16 "	1 1/2 " "	11 50
3 3/4 x 16 "	1 1/2 " "	12 00
4 x 16 "	1 1/2 or 2 "	13 00

(Fig. 317.) "A" PLUNGER.

SIZE	FITTED FOR	PRICE.
2 3/4 x 10 inches.....	1 1/4 inch Pipe.	\$ 7 75
3 x 10 "	1 1/4 " "	8 00
3 1/4 x 10 "	1 1/4 " "	8 25
3 1/2 x 10 "	1 1/4 or 1 1/2 "	8 75
3 3/4 x 10 "	1 1/2 inch "	9 50
4 x 10 "	1 1/2 or 2 "	10 50

CYLINDER PLUNGERS.



The above cuts show the Plungers we use in our various styles of Cylinders.

“A” is all iron, with leather packing, and is used in Figs. 300 and 301.

“B” has a brass Cage and Valve, is leather packed, in addition to an iron Follower $1\frac{1}{2}$ inches long in 12 inch Cylinders, and 3 inches long in 14 inch Cylinders. This Plunger is used in Figs. 302, 303, and in the 14 inch, Fig. 312.

“C” has a brass Cage and Valve, with an Iron Follower 5 inches long. The Follower is cut with water grooves, and is turned to fit the Cylinder perfectly. It will work equally well with or without leather packing. Used in Figs. 304, 305 and 316.

“E” is all iron; has a 2 inch Follower. The Valve plays loose on the Piston Rod, closing on a Spider Seat. This Plunger is leather packed, and is used in Fig. 313.

“F” is all brass, with Stem Valve; the Follower is turned to fit the Cylinder perfectly, and is packed with cupped leather packing. Used in Fig. 312.

“G” is all iron, same as “A” Plunger, excepting that it has a Flat Rod for attaching to wood Piston Rod. It is used in Fig. 318.

It is generally understood that the Cylinder of a Pump is the most important part of it; and that a perfect Cylinder is absolutely essential to a perfect Pump. In offering our extensive line of Cylinders to the trade, we take some little pleasure in stating that they are each and every one perfect in every respect, and made in the most scientific and workmanlike manner.

Each Cylinder is accurately bored and highly polished. They are all cast from metal patterns, and all threads tool-cut to exact gauges, which insures to any who may want repairs, perfect duplicates.

We can furnish any Cylinder with *Brass* Valve Seat when so ordered.

IMPROVED VERTICAL IRON CHECK AND FOOT VALVES.

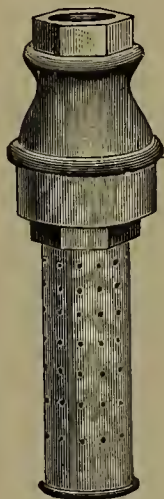


Fig. 331.



Fig. 330.

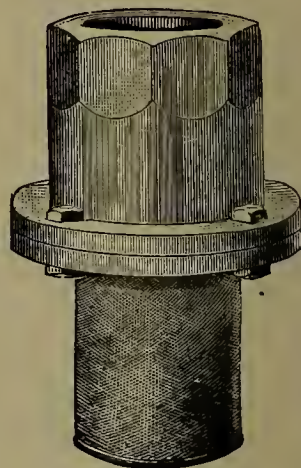


Fig. 333.

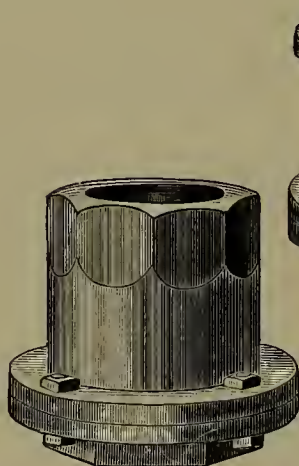


Fig. 332.

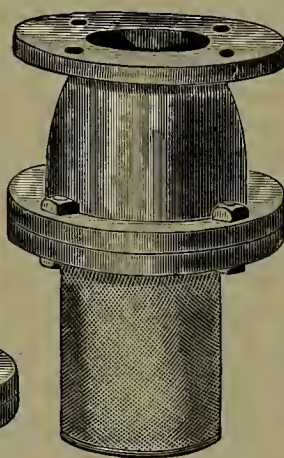


Fig. 335.

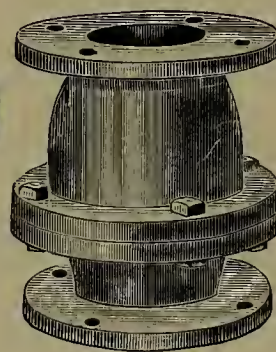


Fig. 334.

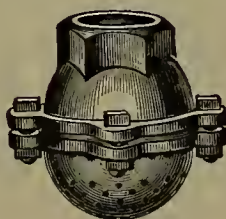


Fig. 328.

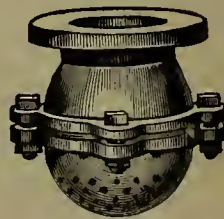


Fig. 329

For Description and Price List, see next page.

PRICE LIST OF
IMPROVED VERTICAL IRON CHECK AND FOOT VALVES.

DESCRIPTION.	SIZES, INCHES							
	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$
Fig. 331, with Strainer, fitted for Gas Pipe.....	Price,							
“ 330, without Strainer, fitted for Gas Pipe.....	“							
“ 328, Strainer and Check Valve, fitted for Gas Pipe....	“							
“ 329, Strainer and Check Valve, Flanged.....	“							
“ 333, with Strainer, fitted for Gas Pipe.....	“							
“ 332, without Strainer, fitted for Gas Pipe.....	“							
“ 335, with Strainer, fitted for Gas Pipe Flange.....	“							
“ 334, without Strainer, fitted for Gas Pipe Flange.....	“							

The working of a Pump is much improved by attaching one of these Valves to the lower end of the Suction Pipe where the distance from the Cylinder to the water in the well is necessarily great, or where angles occur between the well and Pump.

STRAINER WITH POINT.

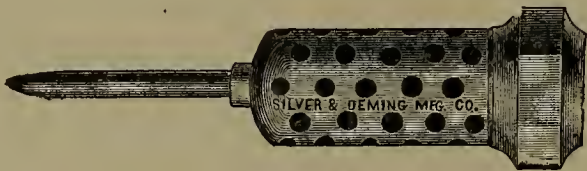


Fig. 336.

	PLAIN.	GALVANIZED.
For 1 inch Pipe.....	\$0 70	\$0 90
" 1¼ " ".....	75	95
" 1½ " ".....	90	1 05
" 2 " ".....	1 15	1 40
" 2½ " ".....	1 25	1 60

In using Fig. 336, the point should be forced into the bottom of the well.

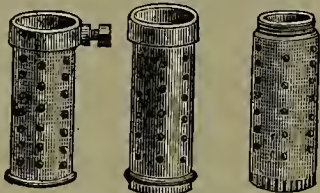
GLOBE STRAINERS FOR SUCTION HOSE.



Fig. 337.

	PLAIN.	GALVANIZED.	BRASS.
For 1¼ inch Suction Hose.....	\$ 50	\$ 60	\$2 25
" 1½ " " ".....	65	75	2 75
" 2 " " ".....	1 00	1 25	3 50
" 2½ " " ".....	1 50	1 90	5 00

STRAINERS FOR WROUGHT IRON PIPE.



338, 339. 340.

	1 IN.	1¼ IN.	1½ IN.	2 IN.	2½ IN.	3 IN.
Fig. 338, Plain.....	\$0 40	\$0 50	.....	.....	.....	.....
" 338, Gauze covered.....	70	80	.....	.....	.....	.....
" 339, Plain.....	50	60	.....	.....	.....	.....
" 339, Gauze covered.....	80	90	.....	.....	.....	.....
" 340, Plain.....	50	60	70	90	\$1 15	\$1 40
" 340, Gauze covered.....	80	90	.....	.....	.....	.....

These Strainers are ordinarily used with our Improved Brass Tube Cylinders, Fig. 312, and our Deep Well Cylinders, Figs. 304 and 305.

FLOAT VALVES.

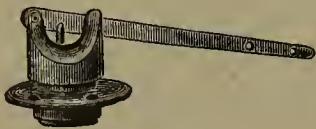


Fig. 351.

Fig. 351.....\$0 80



Fig. 350.

Fig. 350.....\$0 80

Fitted for ¾ or 1 inch Pipe, as ordered.

AIR CHAMBERS.

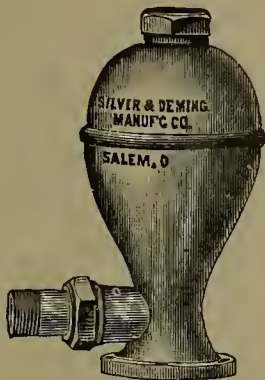


Fig. 370.



Fig. 371.



Fig. 372.

The above cuts represent Air Chambers with different forms of discharge, which are used on our various styles of Hand and House Force Pumps, shown on preceding pages. We send them with Flange holes ready drilled; they may be placed on any of the Pumps to which they are suited, without extra fitting. Always fitted with four holes in Flange, unless otherwise ordered.

Fig. 370.....	\$2 00	Fig. 371.....	\$2 00	Fig. 372.....	\$2 50
---------------	--------	---------------	--------	---------------	--------



Fig. 360.

This cut shows a Cock used in connection with several of our Hand Force, Well Force and Wind-Mill Force Pumps. It has iron Case and brass Plug, and is fitted with right and left hand Coupling Nut.

No. 1, For Pumps with Cylinders $3\frac{1}{4}$ inch or less in diameter, fitted for 1 inch Hose Coupling.....	\$2 00
No. 2, For Pumps having Cylinders larger than $3\frac{1}{4}$ inch, fitted for $1\frac{1}{4}$ inch Hose Coupling.....	2 50

GOOSE NECKS.

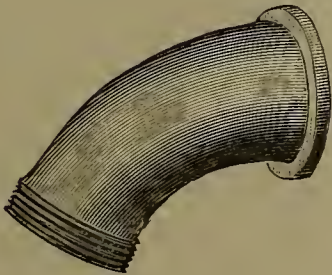


Fig. 361.

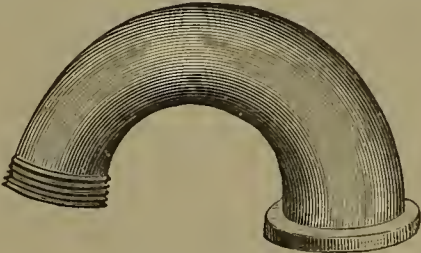


Fig. 362.

The above Goose-Necks are suited to any of our Hand and House Force Pumps, and are fitted for attaching hose, when desired.

	FIG. 361.	FIG. 362.
No. 1, For 1 inch Hose Coupling.....	\$0 40	\$0 50
" 2, " $1\frac{1}{4}$ " " "	50	65
" 3, " $1\frac{1}{2}$ " " "	50	80

PRICE LIST OF REPAIRS.

On this and the following pages will be found Price Lists of Parts or Repairs for all the leading Pumps manufactured for us. In offering these lists, we wish to impress very emphatically upon the minds of our patrons that all Repairs ordered of us will supply the places for which they are intended *without extra fitting*, as our threads are cut to exact gauges, all holes drilled to perfect templets, and, whenever possible, all castings made from metal patterns.

PUMP REPAIRS.

LEVERS OR HANDLES.

Cistern Pumps, Figs. 117, 118, 119, 120, 121, 122, 123 and 124, Nos. 0, 1 and 2.....\$0 50	Tight Top Well Pumps, Figs. 202, 203, 206 and 209, Nos. 2 and 3 .....\$0 90
No. 3 60	Nos. 4, 5 and 6 1 00
No. 4 70	Deep Well Pumps, Figs. 230 and 231 1 75
No. 5 1 00	Deep Well Pumps, Figs. 232 and 233 2 00
No. 6 1 25	Force Pumps, Figs. 220, 221, 222 and 226 .. 1 25
Pitcher Pumps, Figs. 125, 126, 129 and 130, Nos. 1 and 2 50	Hand Force Pumps Figs. 502 to 512, and 530 to 539, inclusive, all sizes..... 1 00
Nos. 3 and 4..... 60	Wind Mill Pumps, Figs. 398, 399, 400, 401, 402, 405, 406, 404, 407, 408, 409 410, 411, 412, 430 and 431, all sizes 1 50
No. 5 75	Iron and Brass House Force Pumps, Single or Double Acting Figs. 520, 521, 541 and 542 2 00
Well Pumps, Figs. 200, 225 and 201, Nos. 1, 2 and 3... 75	Molasses Pump, Fig. 140 1 00
Nos. 4, 5 and 6..... 85	
Well Pumps, Figs. 204, 205, 207 and 208... 1 00	
Special Well Pump Standard, Fig. 227..... 1 50	

FULCRUMS OR BEARERS.

Cistern Pumps, Figs. 117, 118, 119, 120, 121, 122, 123 and 124, Nos. 0, 1 and 2.....\$0 70	Tight Top Well Pumps, Figs. 202, 203, 206 and 209, Nos. 2 and 3 \$1 25
No. 3 75	Nos. 4, 5 and 6 1 50
No. 4 80	Force Pumps, Figs. 220, 221, 222 and 226.. 1 25
No. 5 1 00	Hand Force Pumps, Figs. 502 to 512, and 530 to 539, inclusive, all sizes 1 00
No. 6 1 10	Iron and Brass House Force Pumps, Single or Double Acting Figs. 520, 521, 541 and 542 .. 1 50
Pitcher Pumps Figs. 125, 126, 129 and 130, Nos. 1 and 2..... 40	Wind Mill Pumps Figs 399, 400 and 401, 6 inch Stroke 1 50
Nos. 3 and 4..... 50	Same, 10 inch Stroke 2 00
No. 5 60	Wind Mill Pumps, Figs 398, 402, 404, 405, 406, 407, 408, 409, 410, 411, 412, 430 and 431, 6 inch Stroke... 2 00
Well Pumps, Figs. 200, 225 and 201, Nos 1 and 2 75	Same, 10 inch Stroke..... 2 50
Nos. 3 and 4..... 80	
Nos. 5 and 6 90	
Well Pumps, Figs. 204, 205, 207 and 208... 75	

PLUNGERS, WITH RODS.

Cistern Pumps Figs. 117, 118, 119, 120, 121, 123 and 124, No. 0.....\$0 70	Cistern Pump, Fig. 122, Nos. 2 and 3 \$1 50
No. 1 75	Nos. 4 and 5..... 1 75
No. 2 80	No. 6 2 00
No. 3 90	Pitcher Pumps, Figs. 125, 126, 129 and 130, No. 1 75
No. 4 1 00	No. 2 80
No. 5 1 15	No. 3 90
No. 6 1 30	No. 4 1 00
Cistern Pump, Fig 122, No 1 1 25	No. 5 1 25

PLUNGERS ONLY—NO RODS.

	INCHES, 2 and 2¼,	2½,	2¾,	3,	3¼,	3½,	3¾,	4,
"A" Style	\$0 70	\$0 75	\$0 80	\$0 85	\$0 90	\$1 00	\$1 20	\$1 25
"B" Style	2 00	2 10	2 10	2 30	2 45	2 70	2 95	3 20
"C" Style	2 30	2 45	2 70	2 95	3 20	3 45	3 60	3 95
"E" Style				1 25	1 35	1 45	1 60	1 75
"F" Style	1 90	2 00	2 15	2 25	2 40	2 60	2 85	3 10
"G" Style	70	75	80	90	1 00	1 10	1 20	1 25

Force Pumps, Figs. 230, 221, 222 and 226..\$1 00

Cistern and Well Pump, Fig. 225 1 00

Hand Force Pump, Figs. 502 to 512, and 530
to 539, inclusive, all sizes..... 1 00

Syphon Pump, Fig. 320 3 00

Iron House Force Pump, Single or Double
Acting, Figs. 520, 521, 541 and 542, 3
inch or less in diameter..... 1 00Iron Hose Force Pump, Single or Double
Acting, Figs. 520, 521, 541 and 542, over

3 inch diameter..... 1 50

Brass House Force Pumps, 3 inch or less
diameter..... 2 25Brass House Force Pumps, over 3 inch
diameter..... 2 75

PUMP CYLINDERS.

Cistern Pumps, Figs. 117, 118, 119, 120, 121,
122, 123 and 124, Nos. 0 and 1\$1 25

No. 2 1 50

No. 3 1 75

No. 4 2 00

No. 5 2 25

No. 6 2 50

Pitcher Pumps, Figs. 125, 126, 129 and 130.

No. 1 1 50

No. 2 1 75

No. 3 2 00

No. 4 2 25

No. 5 2 50

Iron Hand Force Pumps, Figs. 502 to 512,
and 530 to 539, and Figs. 430 and 431,

2 inch..... 3 00

2½ and 3 inch..... 4 00

3½ inch\$6 00

4 inch 6 50

Iron House Force Pumps, Figs. 500, 501,

520, 521 and 526, 2 inch 3 50

2½ inch 4 00

2¾ inch 4 25

3 inch 4 50

3¼ inch..... 5 00

3½ inch..... 6 00

4 inch..... 7 50

Iron House Force Pumps, Double Acting,

Figs. 541, 542 and 543, 2¼ inch..... 4 00

2½ inch 5 50

2¾ inch 6 00

3 inch 6 50

3½ inch..... 8 00

4 inch.....11 00

For price of Brass Cylinders, double above list.

BASES.

Cistern Pumps, Figs. 117, 118, 119, 120, 121,
122, 123 and 124, Nos. 0, 1 and 2.....\$0 75

No. 3 85

No. 4 1 00

No. 5 1 15

No. 6 1 25

Pitcher Pumps, Figs. 125, 126, 129 and 130.

No. 1 1 00

No. 2 1 10

No. 3 1 25

No. 4 1 50

No. 5 1 75

Well Pumps, Figs. 200, 201, 226, 202, 203,
206 and 225, Nos. 1 and 2\$0 75

No. 3 85

Nos. 4, 5 and 6 1 00

Well Pumps, Figs. 205 and 207..... 1 00

Set Length Force Pumps, Figs. 220 and 221. 1 25

Cistern and Well Force Pump, Fig. 226 ... 1 25

Hand Force Pump, Figs. 502 to 512, 530 to

539, and Figs. 430 and 431, 2 and 2½

inch 1 00

3 inch 1 25

3½ and 4 inch..... 1 50

SHELL, OR BODY OF CYLINDER.

Figs. 300 and 301, 2 and 2¼ inch\$1 50

2½ inch..... 1 60

2¾ inch..... 1 80

3 inch 2 00

3¼ inch..... 2 25

3½ inch..... 2 50

3¾ inch..... 2 80

4 inch 3 25

Figs. 302 and 303, 2¼ inch 2 30

2½ inch..... 2 45

2¾ inch..... 2 55

3 inch..... 2 70

3¼ inch..... 3 00

3½ inch..... 3 25

3¾ inch..... 3 55

4 inch..... 3 80

Figs. 304, 305, 316 and 317, 2¼ inch\$2 80

2½ inch..... 3 05

2¾ inch..... 3 30

3 inch..... 3 55

3¼ inch..... 3 80

3½ inch 4 00

3¾ inch..... 4 15

4 inch 4 30

Figs. 312 and 313, 10½ inches long, 2¼ inch... 3 75

2½ inch..... 4 00

2¾ inch..... 4 25

3 inch..... 4 50

12 inches long, 2¼ inch 4 25

2½ inch..... 4 50

2¾ inch..... 4 75

3 inch..... 5 00

CYLINDER TOP ATTACHMENTS OR CAPS.

Gas Set Cylinders, Figs. 300 and 301\$0 50

Brass Tube Cylinders, Figs. 312 and 313... 50

Shallow Well Cylinders, Figs. 302 and 303.\$0 75

Deep Well Cylinders, Figs. 304 and 305.... 75

CYLINDER BOTTOM ATTACHMENT OR CAPS.

Gas Set Cylinders, Figs. 300 and 301; Shallow Well Cylinders, Figs. 302 and 303; Deep Well Cylinders, Figs. 304 and 305; Brass Tube Cylinders, Figs. 312 and 313, 2¼, 2½, 2¾, 3 and 3¼ inch	\$0 75
Same, 3½, 3¾ and 4 inch	90

STOCKS OR STANDARDS COMPLETE.

Well Pumps, Figs. 200 and 201, Nos. and 2	\$3 75	Well Pumps, Figs. 205 and 207	\$ 4 50
Nos. 3 and 4	4 25	Well Pump, Fig. 204	4 75
Nos. 5 and 6	4 75	Well Pump, Fig. 208	6 00
Tight Top Well Pumps, Figs. 202 and 203, No. 2	4 50	Tight Top, Fig. 209	6 75
Nos. 3 and 4	5 00	Tight Top Well Pump, Fig. 206	5 00
Nos. 5 and 6	5 50	Set Length Force Pump, Fig. 220	10 00
		Set Length Force Pump, Fig. 221	11 00
		Wind Mill Pumps, Figs. 408, 409 and 410	12 00

STOCKS OR STANDARDS ONLY.

Well Pumps, Figs. 200, 201 and 202, Nos. 1 and 2	\$2 00	Same, Bottom Section	4 00
No. 3	2 40	Figs. 232 and 233, Top Section	4 00
No. 4	2 60	Same, Bottom Section	6 50
Nos. 5 and 6	2 75	Wind Mill Pumps, Fig. 400, No. 4	3 00
Well Pumps, Fig. 207	2 25	Fig. 400, No. 5, and Fig. 402	5 50
Fig. 205	2 50	Fig. 401, Top Section	2 40
Fig. 204	3 00	Same, Bottom Section	3 60
Fig. 208	4 50	Figs. 405 and 407	6 00
Set Length Force Pumps, Fig. 220	4 00	Fig. 406, Top Section	2 40
Fig. 221	4 00	Same, Bottom Section	3 60
Special Well Pump standard, Fig. 227	5 00	Figs. 408, 409 and 410	8 00
Deep Well Pumps, Figs. 230 and 231, Top Section	3 00	Figs. 404 and 411, No. 4	6 50
		Figs. 404 and 411, No. 5, and Fig. 412	7 50

LOWER VALVES.

Cistern Pumps	25	Railroad Pumps	35
Pitcher Pumps	35	Hand Boiler Pumps	2 00
Well Pumps	25	Iron and Brass House Force Pumps	25
Set Length Force Pumps	30	Syphon Pumps	35
Hand Force Pumps	25	Double Acting Cylinders and Pumps	75

BRASS VALVE SEATS.

Cistern Pumps, Figs. 117, 118, 119, 120, 121, 122, 123 and 124, Nos. 0, 1, 2, 3 and 4	75
No. 5	1 00
No. 6	1 25
Pitcher Pumps, Figs. 125, 126, 129 and 130, No. 1	75
No. 2	90
No. 3	1 10
No. 4	1 20
No. 5	1 30
Well and Well Force Pumps	1 00
Hand and House Force Pumps, up to 2½ inch	1 00
Same, over 2½ inch	1 25

BRASS SOLDERING TUBES.

For 1 and 1¼ inch Pipe	50
For 1½ inch Pipe	75
For 2 inch Pipe	1 00

BRACES.

Set Length, Yard, Deep Well and Wind Mill Pumps	50
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SPOUTS.

Figs. 220, 227, 230, 404, 408 and 409	50
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CAST IRON SET LENGTHS.

Well Pumps, Figs. 201, 203 and 222..... \$1 50

IRON PIPE NUTS, for CISTERN and PITCHER PUMPS, SPOUT and AIR CHAMBER NUTS.

For 1 and 1¼ inch 35
For 1½ inch 45
For 2 inch and over..... 60

LEAD PIPE NUTS, for CISTERN and PITCHER PUMPS.

For 1 and 1¼ inch..... 25
For 1½ inch 30
For 2 inch and over..... 50

CROSS HEADS INCLUDING NUTS, SET SCREWS and LINKS.

Hand Force Pumps from Fig. 502 to 512 inclusive, Figs. 202, 203, 206, 209, 220, 221 and 226..... 75

CAPS and STUFFING BOXES.

	CAPS.	S. BOX.		CAPS.	S. BOX.
Deep Well, Fig. 230'.....	\$0 50		Railroad Force Pumps	\$1 50	1 50
Deep Well Fig. 231	75	\$0 50	Iron House Force Pumps.....	65	1 00
Set Length Force, Fig. 220 and			Brass House Force Pumps.....	2 25	1 00
221	50	75	Wind Mill Pump, Figs 404, 405,		
Hand Force, 2 inch.....	50	75	406, 407, 409, 410, 411, 412,		
2½ and 3 inch.....	50	1 00	430 and 431.....		85
3½ and 4 inch	65	1 00	Triumph Force Pump, Figs.		
Hand Boiler Pumps.....	50	1 00	600, 601, 602, 603 and 604..		1 50

BRASS STUFFING BOX BOWLS.

For House Force Pumps, Figs. 520, 521, 526, 541, 542 and 543..... 1 25

AIR CHAMBERS.

Deep Well Force, Fig. 231.....	\$3 00	Syphon Pump, Fig. 320	6 00
Set Length Force, Fig. 221.....	2 50	Double Acting House Force, Nos. 0, 1, 2,	
Wind Mill Force Figs. 405, 406 and 407..	2 50	3 and 4.....	2 00
For Hand Force and Single Acting House		No. 5	5 00
Force, see page 269.		Nos. 6 and 7.....	10 00

PISTON and CONNECTING RODS.

	IRON.	BRASS.
For Well, Hand Force and Wind Mill Force Pumps.....	\$0 60	1 00
For House Force Pumps.....	60	1 50
Flat Rods Figs. 404, 405 406, 407 411, 412.....	60	
Long Flat Rods, Figs 399, 400 401, 402	75	
Same for Figs. 408, 409 and 410.....	1 00	
Syphon Pump, Fig. 320.....	1 75	2 50

RAM VALVES AND CASES. (Gun Metal.)

No. 2	\$3 00	No. 6	15 00
No. 3	5 00	No. 7	20 00
No. 4	6 00	No. 8	25 00
No. 5	10 00		

BRASS HOSE COUPLING TUBES FOR SPOUT OR SUCTION.

For ¾ and 1 inch	\$0 50	For 1½ inch.....	80
For 1¼ inch.....	60	For 2 inch.....	1 00

SPOUT NUTS (Iron) FOR HOSE COUPLING TUBES.

For 1 and 1¼ inch..... \$0 25 | For 1½ inch \$0 35 | For 2 inch \$0 50

Spouts of Figs. 409, 430, 431, and all House and House Force Pumps are fitted 1 inch.

Spouts of Figs. 220, 221, 226, 405 and 406, are fitted 1¼ inch.

Spouts of Figs. 231, 233, 404, 410, 411, 412, also Air Chamber and Funnel Nuts are fitted 1½ inch.

Air Chamber Nuts on Pumps with 3½ inch Cylinder and larger, are fitted 2 inch.

TRIUMPH FORCE PUMPS.

FIGS. 600, 601, 602, 603 AND 604.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Cylinder, with Valve Seats and Bushings . . .	\$11 00	\$11 00	\$11 00	\$17 00	\$18 00
Base, with Valve Seats	3 00	3 00	3 00	5 50	6 00
Air Chamber.	2 50	2 50	2 50	4 00	5 00
Piston Rod	1 50	1 50	1 50	2 00	3 50
Piston with Leathers	2 00	2 00	2 00	3 50	4 00
Front Cylinder Head	1 00	1 00	1 00	2 00	2 00
Back Cylinder Head	90	90	90	1 75	1 75
Stuffing Box Cap (Brass)	50	50	50	1 00	1 25
Stuffing Box Gland	25	25	25	75	75
Valves (Brass)	50	50	50	80	1 00
Leather Valves, each	1 25	1 25	...	....	....
Lever Socket	75	75	75	1 25	1 25
Wrought Iron Lever and Wood Handle . . .	1 50	1 50	1 50	2 00	2 00
Link	25	25	25	35	35
Suction Hose, Half Coupling	90	90	1 10	1 75	2 50
Discharge Hose, Half Coupling	75	75	90	1 10	1 75
Long Bolt for Link	25	25	25	30	40
Lever Bolts, each	15	15	15	20	20
Crimped Leather Packings, each	30	30	40	60	70
Brass Bushings for Suction and Discharge . .	50	50	50	75	1 00
Iron Pipe Nuts	50	50	50	60	75
Lead Pipe Elbows and Unions, each	1 25	1 50	1 50	....	....
Brass Thumb Screws, each	25	25	25	35	35

HAND ROTARY PUMPS.

FIGS. 574, 575, 576 AND 578.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Case, Cover and Stuffing Boxes	\$8 00	\$9 00	\$10 00	\$15 00	\$17 00
Cams, each	3 50	4 00	4 50	6 00	6 50
Base and Leather Valve	3 00	3 00	3 50	4 00	5 50
Spout and Cap	1 00	1 00	1 50	2 00	2 50
Balance Wheel (light)	1 00	1 00	1 00	....	....
Balance Wheel (heavy)	2 00	2 00	2 00	3 00	3 00
Stuffing Boxes and Tight Caps	35	35	35	35	35
Base for Fig. 578	3 00	3 00	3 50	4 00	5 50

HAND ROTARY PUMP, ON FRAME.

FIG. 577.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Case, Cover, Stuffing Boxes and Caps	\$8 00	\$9 00	\$10 00	\$15 00	\$17 00
Cam with Short Shaft	3 50	4 00	4 50	6 00	6 50
Cam with Long Shaft	5 00	5 50	6 00	7 50	8 00
Small Base	1 50	1 75	1 75	...	...
Bed Plate	4 00	4 50	5 00	7 00	8 00
Valve Seat . . . . .	...	...	...	1 50	1 50
Spout and Cap	1 00	1 00	1 50	2 00	2 50
Pulleys, each	2 00	2 50	3 00	4 00	4 00
Outs de Bearing	1 00	1 25	1 25	2 00	2 50

MISCELLANEOUS PUMP REPAIRS.

Couplings for connecting Flat and Round Rods	\$0 50
Yoke and Link for Figs. 230 and 231	75
Valve Cases or Funnels for Hand Force Pumps, Figs. 502, 503, 530 and 531	80
Same, for House Force, Fig. 520, and Syphon Pump, Fig. 320	80
Gas Pipe Flange, Fig. 320	90
Base, Fig. 320	1 00
Inside Cylinder, Fig. 320	6 00
Outside Shell, Fig. 320	4 00
Lower Section, with Pipe Flange, Fig. 408	4 00
Lower Section, with Pipe Flange, Fig. 409 and 410	8 00
Platform Section Figs. 408, 409 and 410	2 50
Goose Neck, for Figs. 408 and 409	60
Bearer Bolt and Brass Nut for House Force Pumps	75
Connecting Slide for Wind Mill Attachment	50
Turned Malleable Pins for Wind Mill Pumps	15
Fulcrum Links	50

BRASS JACKET DRIVE POINTS.



Galvanized Pipe covered with Brass Gauze and Perforated Brass, suitable for fine sand stratas.

PRICE LIST.

DIAMETER.	LENGTH.	No. OF HOLES AND PRICE.		No. OF HOLES AND PRICE.		No. OF HOLES AND PRICE.		No. OF HOLES AND PRICE.		No. OF HOLES AND PRICE.	
1¼ inch.	24 inch.	80	\$4 50	100	\$4 50	120	\$5 00	...	\$	...	\$
1¼ "	30 "	80	5 00	100	5 50	120	6 00	140	6 50	...	....
1¼ "	36 "	100	6 00	120	6 50	140	7 00	160	7 50	...	....
1¼ "	42 "	120	7 00	140	7 50	160	8 00	180	8 50	...	....
1¼ "	48 "	120	7 50	140	8 00	160	8 50	180	9 00	200	9 50
1½ "	24 "	80	6 00	100	6 75	120	7 50	...	....	...	....
1½ "	30 "	80	7 50	100	8 25	120	9 00	140	9 75	...	....
1½ "	36 "	100	8 00	120	9 75	140	10 50	160	10 75	...	....
1½ "	42 "	120	10 50	140	10 75	160	12 00	180	12 75	...	....
1½ "	48 "	120	11 25	140	12 00	160	12 75	180	13 50	200	14 25

DIAM.	LENGTH	No. OF HOLES AND PRICE.		No. OF HOLES AND PRICE.		No. OF HOLES AND PRICE.		No. OF HOLES AND PRICE.		No. OF HOLES AND PRICE.	
2	30 inch.	200	\$12 00	250	\$14 00	300	\$16 00	3	36 inch.	350	\$25 00
2	36 "	250	15 00	300	17 00	350	19 00	3	48 "	400	30 00
2	48 "	300	20 00	350	22 00	400	24 00	3	60 "	450	35 00
2½	36 "	300	20 00	350	22 00	400	24 00	4	48 "	500	40 00
1½	48 "	350	24 00	400	26 00	450	28 00	4	60 "	500	45 00
2½	60 "	400	28 00	450	30 00	500	32 00	4	72 "	600	50 00
										700	55 00
										800	60 00

RADIAL CENTER BRASS JACKET DRIVE WELL POINTS.



Fig. 1.

This cut shows the Malleable Radial Center.



Fig. 2.

This cut shows the Radial Center wound with heavy galvanized wire, ready for putting on the Wire Gauze and Brass Jacket. A 2-foot Point of this kind will supply more water than any 3-foot Point made of pipe.



Fig. 3.

This cut shows the finished Point.

1¼ INCH POINTS.

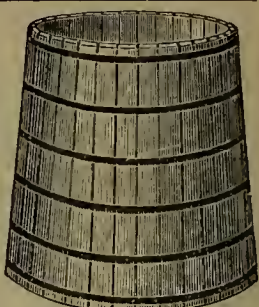
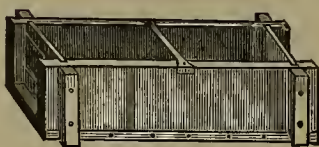
PRICE LIST

	LENGTH.	SIZE JACKET.	PER DOZ.
No. 60 Wire Gauze	20 inches.	14 inch.	\$30 00
" 80 "	20 "	14 "	34 00
" 60 "	2 feet.	18 "	36 00
" 80 "	2 "	18 "	40 00
" 60 "	2½ "	24 "	45 00
" 80 "	2½ "	24 "	52 00

When it is necessary to drive in *very fine quicksand*, we would recommend using the Radial Center Points, covered with either No. 90 or 100 Wire Gauze, which very seldom fails to keep out the finest sand.

For price of No. 90 Gauze Points, add 10 per cent to price of No. 80 Points, and for No. 100 Gauze, add 20 per cent to price of No. 80.

ROUND AND SQUARE TANKS.



PRICE LIST OF SQUARE TANKS.

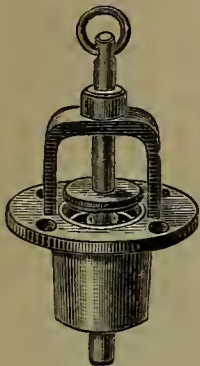
SIZE OF TANK.			CAPACITY.		PRICE.
LENGTH.	BREADTH.	DEPTH.	GALLONS.	BARRELS	
12 feet.....	3 feet	20 inches.	420	13	\$20 00
12 ".....	4 "	20 "	562	18	23 25
12 ".....	4½ "	20 "	630	20	25 50
14 ".....	4 "	20 "	660	21	26 50
16 ".....	4 "	20 "	757	24	31 00
16 ".....	4½ "	20 "	851	27	33 00
16 ".....	5 "	20 "	976	31	35 50
16 ".....	6 "	24 "	1,260	40	44 00

Our Square Tanks are made of two-inch Plank, well bolted both ways, and painted.

PRICE LIST OF ROUND TANKS.

SIZE OF TANK.		NUMBER OF HOOPS.	CAPACITY.		PRICE.
LENGTH OF STAVE	DIAMETER OF BOTTOM.		GALLONS.	BARRELS.	
2 feet.....	6 feet.	2	378	12	\$15 00
2 ".....	8 "	2	693	22	20 00
6 ".....	6 "	5	1,071	34	28 50
5 ".....	7 "	4	1,197	38	28 50
8 ".....	6 "	7	1,480	47	36 00
6 ".....	8 "	5	1,890	60	38 50
10 ".....	6 "	8	1,890	60	43 00
7 ".....	8 "	6	2,268	72	44 00
8 ".....	9 "	7	3,339	106	57 00
10 ".....	8 "	8	3,370	107	59 00
12 ".....	8 "	9	4,126	131	68 50
8 ".....	10 "	7	4,126	131	65 00
10 ".....	9 "	8	4,284	136	67 50
12 ".....	9 "	9	5,229	166	77 00
10 ".....	10 "	8	5,292	168	76 00
14 ".....	9 "	9	6,174	196	85 50
12 ".....	10 "	9	6,457	205	86 50
10 ".....	12 "	8	7,623	242	93 00
14 ".....	10 "	10	7,623	242	98 00
12 ".....	12 "	9	9,292	295	150 00
14 ".....	12 "	10	11,026	350	165 00
10 ".....	16 "	8	13,545	430	202 00
12 ".....	16 "	9	16,542	525	210 00
14 ".....	16 "	10	19,330	620	232 00
12 ".....	18 "	9	20,947	665	237 00
16 ".....	16 "	11	22,554	716	260 00
14 ".....	18 "	10	24,727	785	270 00
16 ".....	18 "	11	28,539	906	298 00
14 ".....	20 "	10	30,555	970	325 00
16 ".....	26 "	11	35,280	1,120	358 00
16 ".....	22 "	12	42,651	1,354	420 00
18 ".....	22 "	14	48,352	1,535	470 00
16 ".....	24 "	12	50,746	1,611	485 00
18 ".....	24 "	14	57,519	1,826	530 00
16 ".....	30 "	14	79,380	2,520	705 00
18 ".....	30 "	15	89,932	2,855	753 00

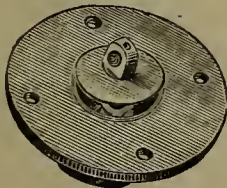
The above prices include nothing but the staves, bottom, dowl-pins and iron hoops, on board cars at Kansas City. All sizes up to and including the 14x10 are made of 2-inch plank and have drive hoops. The 12x12 and larger are made of 3-inch, and the hoops are provided with lugs and bolts for tightening. If drive hoops are preferred for these sizes, a discount of 5 per cent will be allowed. We set up every tank, and mark each piece and every hoop. All our tanks are built of soft pine, free from sap, shakes and unsound knots, and guaranteed not to leak if properly set up. We will quote prices on tanks made of CLEAR pine when desired.



BRASS TANK VALVES,
WITH YOKE.

Size, inches.....	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Price, each.....	\$2 50	\$3 50	\$5 75	\$8 00	\$12 00	\$17 00

CAST-IRON TANK VALVES.
WITH BRASS PLUG.



Size, inches	2	$2\frac{1}{2}$	3	4
Price, each.....	\$3 50	\$4 50	\$6 00	\$9 00

TANK CHECK VALVES.



For $\frac{3}{4}$ and 1 inch Pipe.....	\$1 10
" $1\frac{1}{4}$ " "	1 25
" $1\frac{1}{2}$ " "	1 50
" 2 and $2\frac{1}{2}$ " "	2 25
" 3 " "	2 75
" $3\frac{1}{2}$ and 4 " "	3 25

FLOAT VALVES.

Fig. 351.—Price, 80 cents.



Fig. 350.—Price, 80 cents.



Fitted for either $\frac{3}{4}$ or 1 inch Pipe, as ordered.

WROUGHT GOOSE NECKS.



For 1 inch Pipe.....	\$0 60
" $1\frac{1}{4}$ " "	90
" 1 " " Galvanized	1 00
" $1\frac{1}{4}$ " "	1 35
Coupling for attaching $\frac{3}{4}$ inch Hose to 1 inch Crooks.....	25

LONG SCREWS.

With Coupling and Lock-Nut Faced, for Attaching Pipes to Tank Bottoms.



For $\frac{3}{4}$ inch Pipe.....	\$0 50
" 1 " "	65
" $1\frac{1}{4}$ " "	80
" $1\frac{1}{2}$ " "	1 00

When ordering, state thickness of bottom of Tank.

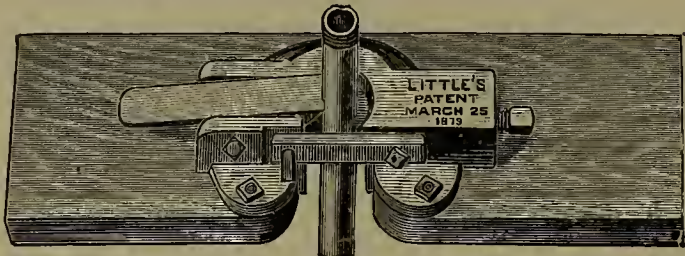
PATENT IMPROVED CLAY AND SAND AUGERS.

When it is necessary to drive through clay or hard-pan, it is best to use an Auger like the one here shown, and bore through before driving. B and C are provided with a thread on the upper end, so they can be lengthened out with a piece of pipe to bore almost any depth. They are made of the best material, and will bore the fastest and easiest of any Augers in the world. Four-inch is the size generally used. They are indispensable to wellmen. A bores in soft, loose sand, gravel, clay and small stones; B is hard steel, and bores in blue clay, soft sandstone and soapstone.

PRICE L ST OF AUGERS.

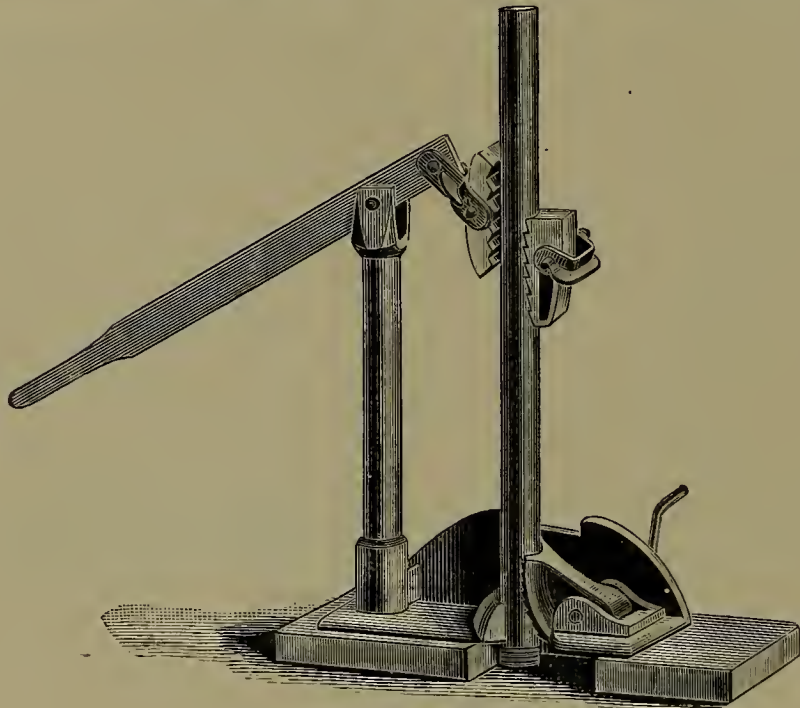
A, Spiral Auger.....	4 in. \$10 00	3 in. \$7 00	C, Ribbon Auger....	4 in. \$10 00	3 in. \$7 00
B, Pod	4 in. 10 00	3 in. 7 00			

Little's Patent Automatic Pipe Holder.



Mounted on 2-inch plank, 8 inches wide and 2 feet long, as shown in cut. Price each, \$5 00.

WATSON'S PUMP AND PIPE LIFTING JACK.



Price each, \$10.00.

MALLEABLE IRON DRIVING CAPS.

Fitted for standard size Tubing, 1¼ inch	\$0 75
Fitted for standard size Tubing, 1½ inch	90
Fitted for standard size Tubing, 2 inch	1 50

STEEL DRIVING CAP, OR HEAD.

For 1¼ inch Pipe, each	\$3 00
For 1½ inch Pipe, each	4 50

ROD COUPLINGS.



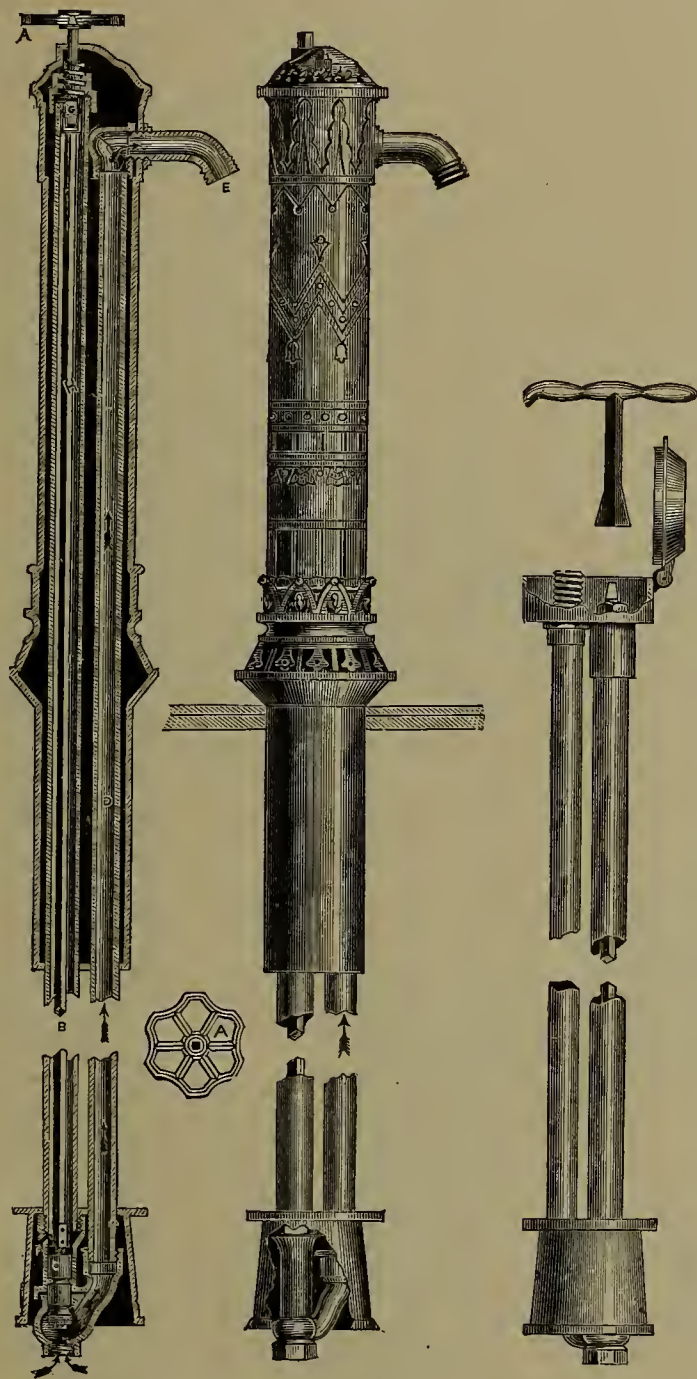
Malleable Rod Coupling, ¾ and 7-16 inch, per lb.	\$0 50
Galvanized Rod Coupling, ¾ and 7-16 inch, per lb.	60
Brass Rod Coupling, ¾ and 7-16 inch, per lb.	1 00

PLAIN AND GALVANIZED PUMP ROD.

¾ and 7-16 inch, Plain Rod, per lb.	\$0 06
¾ and 7-16 inch, Galvanized Rod, per lb.	08



McNAMARA'S PATENT COMPRESSION VALVE DRY PIPE HYDRANT AND STREET WASHER.



With Improved Ornamental Post.

This Hydrant and Street Washer has the advantage over all others from the fact that all the working parts are in a Dry Pipe, which is thoroughly protected both at the top and bottom, so that water cannot enter it, thus avoiding the possibility of frost affecting it in any manner in the coldest weather.

The workings of this Hydrant and Street Washer are so plainly shown by the accompanying cuts that further explanation is unnecessary. The following are the principal advantages claimed in the use of these Hydrants and Street Washers:

- 1st. They are not liable to get out of order, but in case of needed repairs it can be done without digging up or removing the Pipe or Stock from the ground.
- 2d. They are made of Iron and Brass, and so cannot rot out.
- 3d. They are perfectly anti-freezing, the waste being automatic and operating with certainty, so that no water can remain in the pipes when the water is shut off.
- 4th. They are positive in operation, simple in construction, and for durability and service they will stand extreme water pressures.

IRON HYDRANTS.					IRON STREET WASHERS.				
Length in ground, feet...	3	4	5	6	Length in ground, feet...	3	4	5	6
Price, 3/4 inch.....	\$10 50	11 00	12 00	14 00	Price, 3/4 inch....	\$8 50	9 50	10 50	12 00
Price, 1 inch.....	11 50	12 50	13 00	15 00	Price, 1 inch.....	9 50	10 50	11 50	13 00

For Iron Pipe Connection, add \$1.00 extra.

PRICES OF REGULAR SIZES.
SERVICE BOXES FOR GAS AND WATER.

No. 0,	made in one piece, and intended for shallow services, is 10 in. long over all	.....	\$1 00	each
" 1,	extends from 13 in.	up to 21½ in., extreme length	.....	1 25 "
" 2,	"	2 ft.	up to 3 ft. 3 in.,	" 1 65 "
" 3,	"	2 ft. 7 in.	up to 3 ft. 11 in.,	" 1 75 "
" 4,	"	2 ft. 9 in.	up to 4 ft. 10 in.,	" 2 00 "
" 5,	"	3 ft. 6 in.	up to 5 ft. 6 in.,	" 2 25 "
" 7,	"	4 ft. 1 in.	up to 6 ft. 2 in.,	" 2 50 "

The covers to these boxes are all strongly made. If extra heavy ones are required, the additional expense will be 5 cents each.
All our boxes are coated with coal tar inside and outside to protect from rust, etc.
Keys for opening covers supplied free of charge.

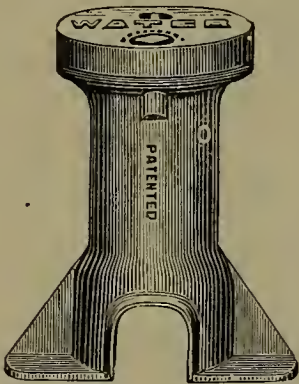
No. 14 Extension Section, or En-
larged Base.

These are intended for extra large service cocks
Price, 40 cents.

This extra section is used in connection with any of our regular sizes of service boxes. The shaft above the bell is about the same diameter outside as the inside lower part of the service box, and is made slightly tapering so that it will telescope, or set inside the base of the service box about four inches, thus closing up the smaller side openings of regular service box, and gives a base having openings 1½ inches larger than regular size.

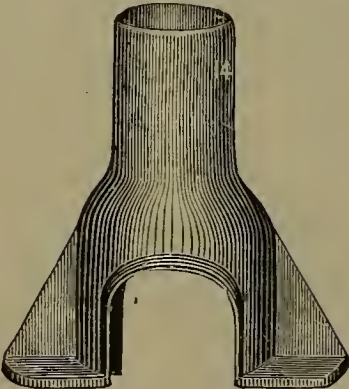
No. 15, Extension Section (not illustrated) for increasing length of boxes two feet, 55 cents.

No. 0.



Stationary length, 10 in.
diam. inside, in
smallest part, 3½ in.

No. 14.



Enlarged base to telescope in-
side service boxes at the base.

Cover for Gas
Service.



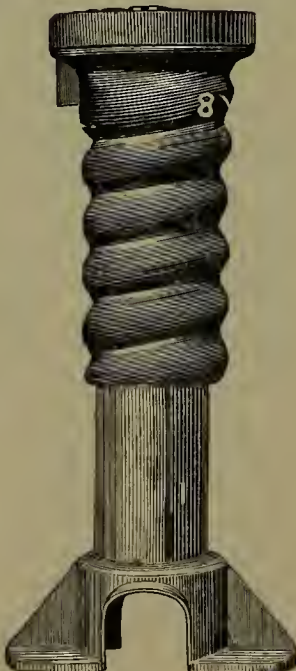
Key for Open-
ing Covers.



Cover for Water
-Service.



No. 1.



13 in. to 21½ in.

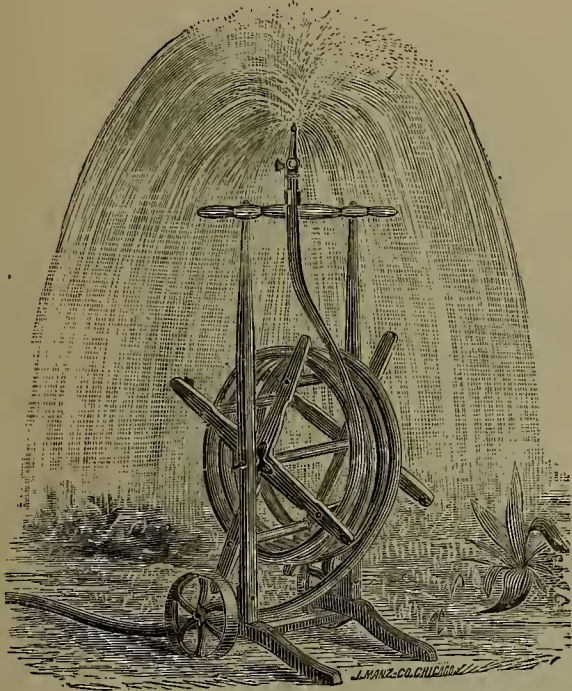
No. 2



2 ft. to 3 ft. 3 in.

HOSE REELS.

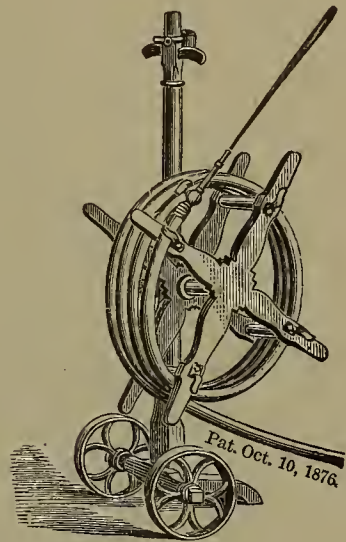
THE FOUNTAIN REEL.



No. 1.

No. 1 carries 50 feet of $\frac{3}{4}$ inch Hose.
Price, \$3.00 each.

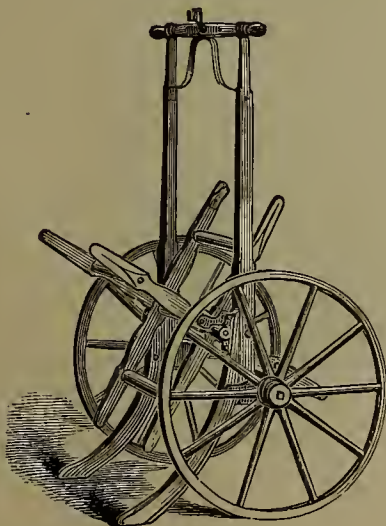
THE FOUNTAIN REEL.



No. 2.

No. 2 carries 50 feet of $\frac{3}{4}$ inch Hose.
Price, \$3.00 each.

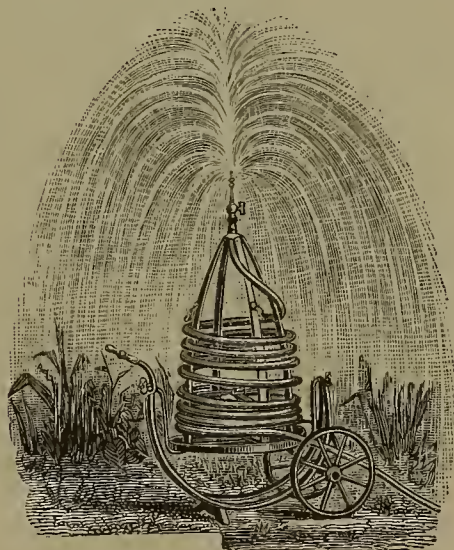
THE FOUNTAIN REEL.



NO. 3.

No. 3 carries 150 feet of $\frac{3}{4}$ inch Hose.
Price, \$5.00 each.

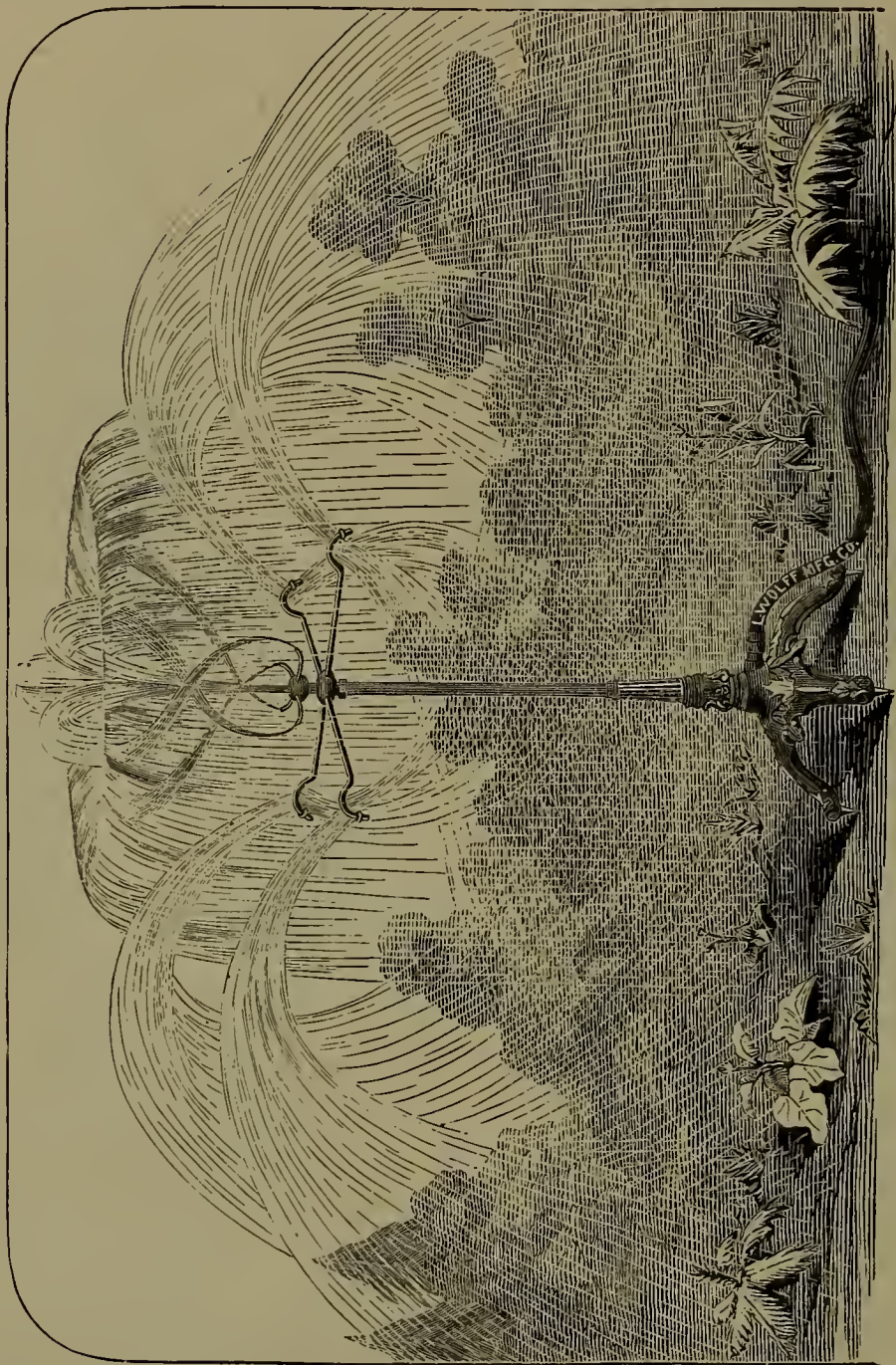
THE CONICAL REEL.



Pat. Oct. 10, 1876.

The "Conical" carries 100 feet of $\frac{3}{4}$ in. Hose.
Price, \$4.00 each.

LAWN SPRINKLERS.

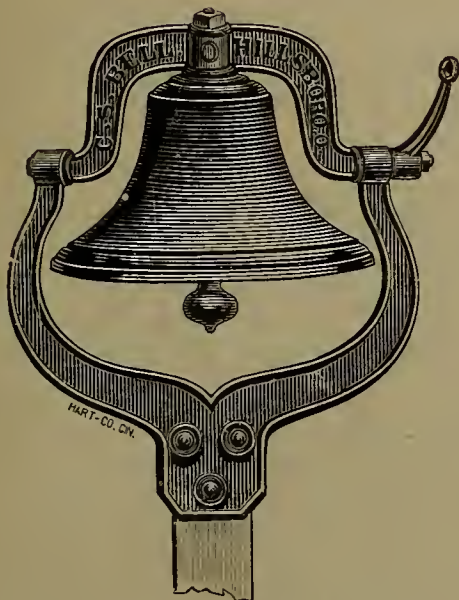


PRICE LIST.

Four Arm, with Nickel Plated Head.....	\$6 50
Eight “ “ “ “ “	7 50

FARM BELLS, WITH HANGINGS.

FARM BELLS.



Nos.	SIZE.	WEIGHT.	PRICE BRONZED.
1.....	15 inch.	40 lbs.	\$ 4 00
2.....	17 "	50 "	5 00
3.....	19 "	75 "	7 50
4.....	21 "	100 "	10 00
A.....	15 "	53 "	5 00
B.....	17 "	75 "	7 50
C.....	19 "	100 "	10 00
D.....	21 "	150 "	15 00

We offer the Trade the LARGEST Bell for the money and one that can be heard the farthest for its weight, and the most DURABLE. This we are enabled to do by using BETTER MATERIAL. The Improved Mountings, Uniform Shape of Bells, and Extra Finish, make them the most desirable Bell in the market.

All Bells are Warranted for one year from the time of sale. If they prove defective from ordinary use during that time, a new one will be furnished free, except freight.

CHURCH AND SCHOOL BELLS WITH HANGINGS AND FRAME.

STEEL ALLOY BELLS.

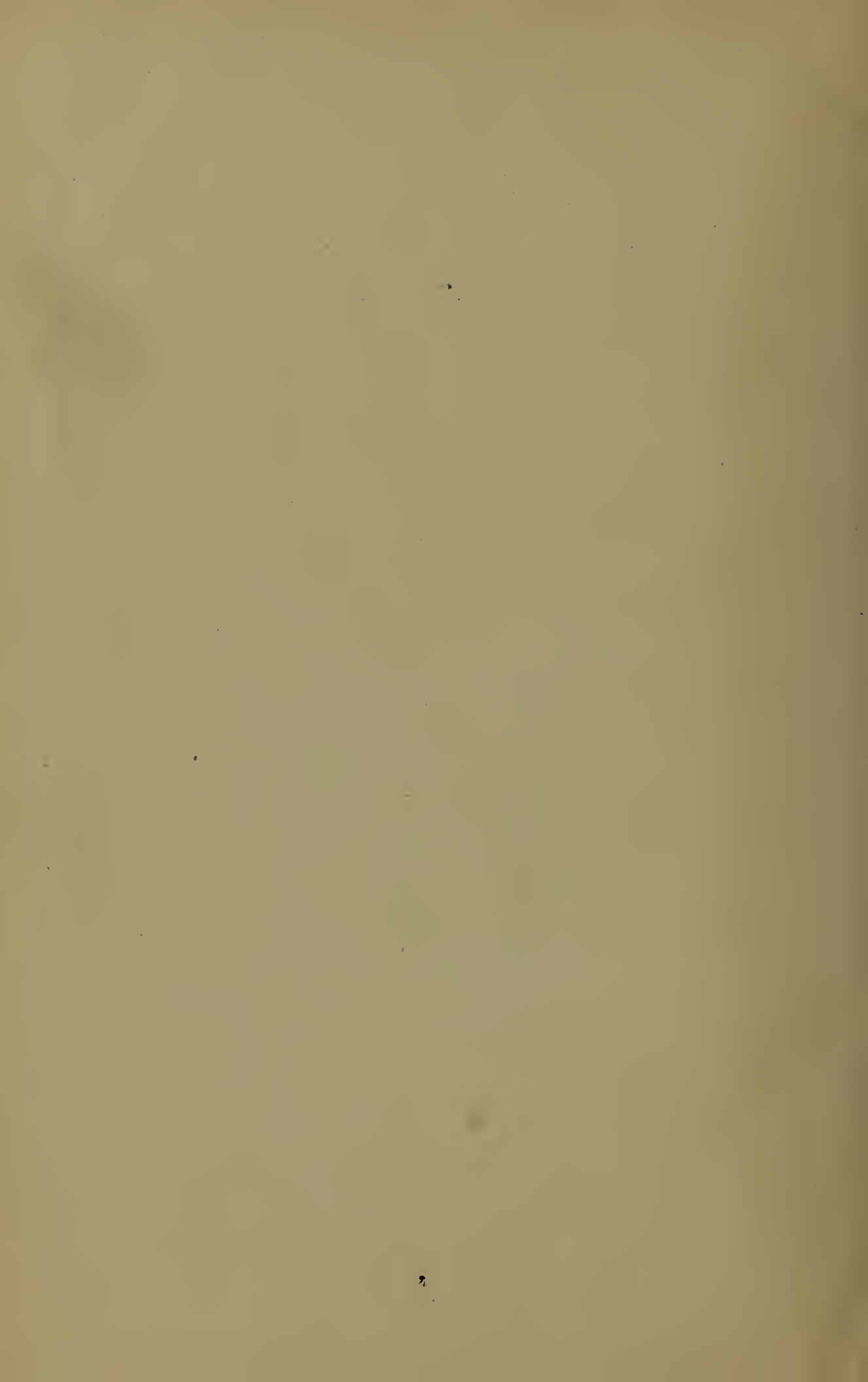
Nos.	SIZE.	WEIGHT.	PRICE BRONZED
5.....	24 inch.	225 lbs.	\$25 00
6.....	26 "	325 "	40 00
7.....	32 "	600 "	75 00
8.....	36 "	850 "	110 00

Weight and price includes all the Hangings.

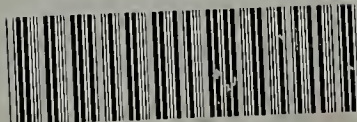
These Bells are furnished complete, as represented in cut, including wood frame, iron wheel, tolling hammers on Nos. 7 and 8, Bells bronzed, and all other parts neatly painted, without extra charge. They are offered at the lowest prices of any Bell of this class, but are not intended to compete with the common iron Bell.

They are cast from an alloy of STEEL, and can be relied on in all seasons and under all circumstances. The TONE is clear and full, and gives general satisfaction.





LIBRARY OF CONGRESS



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